

Ajuntament de Barcelona
Economic Promotion

C. Llacuna 162, 1st floor
08018 Barcelona - Spain
proeconomica-ajbcn@bcn.cat
www.bcn.cat/barcelonabusiness

ACC10
Competitiveness for Catalonia

Generalitat de Catalunya
Government of Catalonia

Passeig de Gràcia, 129
08008 Barcelona - Spain
catalonia@acc10.cat
www.acc10.cat
www.catalonia.com

FOREIGN INVESTMENT IN THE BARCELONA AREA AND CATALUNYA

FOREIGN INVESTMENT IN THE BARCELONA AREA AND CATALUNYA

ACC10
Competitiveness for Catalonia

Generalitat de Catalunya
Government of Catalonia



Ajuntament de Barcelona
Economic Promotion

**LIBRARY OF CATALONIA
(BIBLIOTECA DE CATALUNYA) CIP INFORMATION**

Foreign investment in the Barcelona area and Catalonia
I. Carranza, Isabel, ed. II. Rodríguez, Imma (Rodríguez López), ed. III. Diamante, Giulia, ed. IV. ACCIÓ V. Barcelona. Sector de Promoció Econòmica
1. Inversions estrangeres - Barcelona 2. Inversions estrangeres - Catalunya
339.72722(467)



Disclaimers:
This work is licensed under the Attribution-NonCommercial-ShareAlike 3.0 Creative Commons. It allows the reproduction, distribution and broadcast provided that they cite the author and do not be a commercial use. The creation of derivative works is permitted provided that they are spread with the same license. The full license is available at <http://creativecommons.org/licenses/by-nc-sa/3.0/es/deed.en>

EDITION

Barcelona City Council
Economic Promotion sector
Llacuna 162, 1st floor
08018 - Barcelona - Spain
T. +34 93 256 39 29
proeconomica-ajpcn@bcn.cat

Government of Catalonia
ACCIÓ
Invest in Catalonia
Passeig de Gràcia, 129
08008 - Barcelona
T. + 34 93 476 72 00
catalonia@acció.cat

PricewaterhouseCoopers
Pablo López Romero
Elena Casas Martínez

COORDINATION

Isabel Carranza - Barcelona City Council
Imma Rodríguez - Invest in Catalonia - ACCIÓ
Giulia Diamante - Planning and analysis - ACCIÓ

DESIGN

Index

PRINTING

Cevagraf, S.C.C.L.

D.L.:
Barcelona, November 2009
No. of copies: 2,000

FOREIGN INVESTMENT IN THE BARCELONA AREA AND CATALONIA



Dynamic and open, enterprising and cosmopolitan, Barcelona has always been a city that welcomes foreign investment. The city has a dense metropolitan area full of vitality, and Barcelona's economy is characterized by the diversification of activity with a strong industrial base and a predominant services sector. The city's objectives include actively maintaining this economic diversification, adapting to new demands and meeting new challenges to stay attractive and competitive in a globalized world.

Over the centuries, the city has continually reinvented itself to adjust to the needs of each period and open itself to the world. With its long industrial tradition, Barcelona is now focusing strongly on the knowledge economy and sustainability, based on the solid advantage of its unbeatable location as the southern gateway to Europe and the Mediterranean. It is an attractive city due to its business development, entrepreneurial initiatives, international talent, leading research, boundless creativity and quality of life, which has earned the admiration of the entire world.

The Barcelona metropolitan area has a population of 4.9 million and an area of 3,236 km². Its considerably diversified business community has a long industrial tradition and provides a very attractive location for foreign investment. Barcelona was recently named the headquarters of the Secretariat of the Union for the Mediterranean, a fact that will strengthen the city's leadership in this area even more and attract leading companies interested in benefiting from new business opportunities.



Ajuntament de Barcelona
Economic Promotion

Jordi Hereu
Mayor of Barcelona

More than 2,700 foreign companies are currently operating in the Barcelona area. These companies have shown their loyalty to the area by staying here and consolidating their presence through renewed investments. More and more companies with a vision of the future are choosing Barcelona as the location of their business, as shown by the high rate of satisfaction of the foreign companies operating here. The companies established in the city frequently make new investments to focus on strategic growth in activities of increased added value.

Attracting foreign investment to the Barcelona area, as presented in this fifth edition of the study, is a key aim of the public administration to create loyalty and increase inflows of foreign investment. Today Barcelona's objective is to focus firmly and decisively on a model of economic growth based on innovation, creativity and the knowledge economy. Barcelona wants to continue to be known for its proactive support of talent and creativity, its openness to new economic activities, and its drive to increase the quality of life of its inhabitants.



I am pleased to present the 5th edition of the study "Foreign investment in the area of Barcelona and Catalonia", which is jointly developed, biannually, by Invest in Catalonia - ACCIÓ and the Economic Development Area of the Barcelona City Council. Certainly, foreign investment in our country, and the opinion of businessmen about it, are key aspects that contribute to improve the competitiveness of Catalan companies and, ultimately, of Catalonia.

The strategic location of our country in southern Europe, the quality of life we enjoy and our entrepreneurial spirit, are factors that make Catalonia one of Europe's most attractive areas for foreign investment. The fact that more than 3,000 foreign companies are established and generate a total flow of foreign direct investment of 3,458 million Euros, in 2008, confirms the ability of Catalonia and Barcelona to attract high value-added foreign investment and international talent.

Despite the current situation, where the world economy has experienced a setback due to the financial crisis and, in turn, the competition is increasing globally, Catalonia has to make an effort to remain an attractive destination for foreign investment, maximizing the advantages of having a diversified business network and competitive service providers, along with human resources with high technical skills.

In addition to maintaining the traditional foreign investment, Catalonia has to carry on with its productive model transformation process and lead the foreign investment attraction of emerging

sectors and countries. Knowledge-intensive and high value-added activities take a special importance in business growth strategies for companies and represent, at the same time, a factor of competitiveness to attract and retain foreign investment. The availability and investment in scientific and technological infrastructures, together with policies and government incentives for research and development, become some of the most valued aspects by businesses when making the final decision to establish in our territory.

I am confident that Catalonia is prepared to face the challenges of globalization and technological change and, at the same time, it is able to make the most of the opportunities created by the current situation. The Catalan government, aimed at encouraging the development of new business projects, will develop further cooperation with the private sector to support the growth of our territory, thereby ensuring the welfare of all citizens.

Josep Huguet i Biosca
Minister of Innovation, Universities
and Enterprise

ACCIÓ
Competitiveness for Catalonia

Generalitat de Catalunya
Government of Catalonia

INDEX



MAIN CONCLUSIONS OF THE STUDY

06



INTRODUCTION TO THE STUDY AND THE ECONOMIC CONTEXT

- 2.1 Introduction to the study 12
- 2.2 Methodological approach and conceptual framework of the study 13
- 2.3 Opportunities of FDI for Catalonia in the context of world economic change 15



CURRENT SITUATION OF FDI IN CATALONIA AND THE REST OF THE WORLD

- 3.1 Current situation of FDI in the world 20
- 3.2 Increased competition to attract FDI 22
- 3.3 Current situation of FDI in Catalonia and the Barcelona area 23



TRADITIONAL FDI IN CATALONIA: CONCENTRATED AT KEY POINTS ALONG THE VALUE CHAIN

- 4.1 The situation of the business community in mature industries: the focus on activities with high added value and knowledge intensive activities 31
- 4.2 The business model of companies in mature industries: the R&D&i opportunity 34
- 4.3 The competitive advantage of Catalonia and the Barcelona area in terms of traditional FDI 36
- 4.4 Human capital 41
- 4.5 Other contextual factors 42



FDI IN EMERGING INDUSTRIES IN CATALONIA: ATTRACTING TALENT AND REACHING CRITICAL MASS

- 5.1 The dynamics of the business community in emerging industries: a note on local-global alliances 51
- 5.2 The role of clusters as generators of the economic activities 52
- 5.3 The competitive advantage of Catalonia and the Barcelona area in terms of FDI in emerging industries 56
- 5.4 Human capital 60
- 5.5 Access to financing: venture capital and public incentives 61
- 5.6 Other contextual factors 64



GEOGRAPHIC ANALYSIS OF FDI IN CATALONIA

- 6.1 Europe and the United States 71
- 6.2 Asia 73
- 6.3 Mediterranean countries 76
- 6.4 Geographic comparison: critical points, challenges and opportunities 78



APPENDICES

- 7.1 Methodology of the study 84
- 7.2 List of figures, tables and graphs 88
- 7.3 Sources 89
- 7.4 Glossary of terms 91



MAIN CONCLUSIONS OF THE STUDY

The results of the fieldwork, discussion groups, interviews with relevant actors and the analysis of different databases specializing in FDI have made it possible to collect the most outstanding perspectives on the current and future situation of FDI, the challenges facing the Barcelona area and Catalonia in terms of competitiveness and the factors that make us optimistic about positioning Catalonia as one of the most attractive locations for investment in coming years.





MAIN CONCLUSIONS

01

Catalonia and the Barcelona area lead the rankings of the most attractive places to do business. However, the reduction in the volume of FDI at the global level in the last year has resulted in greater competition between regions interested in attracting, consolidating and maintaining investments.

02

Strategies to promote the competitiveness of Catalonia and the Barcelona area are being implemented in a context of growing competitiveness at the world level and within a framework of change in production models at the local level. In this regard, different lines of action are emerging:

- Maintaining traditional FDI in mature industries while focusing on added-value and knowledge-intensive activities.
- Attracting and consolidating FDI in New Economy industries and entrepreneurship.

Catalonia and the Barcelona area have a business community of mature industries where the focus is on R&D&I, technology and logistics. These industries should represent the seed for attracting and consolidating FDI in emerging industries such as biotechnology, renewable energies and ICTs.

To favour this approach, public administrations can impact competitiveness factors at the local level, particularly with regard to infrastructure, human capital, access to financing, the regulatory framework and quality of life.

03

More than 3100 foreign companies are operating in Catalonia, with a total flow of FDI of €3.45 billion in 2008.

The Barcelona area accounts for about 75% of the FDI projects in Catalonia on average and accounted for 87% in 2008.

In the last 5 years, projects connected to ICTs have represented more than 20% of the total and, together with services for companies and consumer products, they represent 50% of the FDI projects implemented.

04

In mature industries, R&D&I constitutes a strategy for increasing business, as well as a competitive factor for attracting and maintaining FDI in the Barcelona area and Catalonia. In 2008 industrial investment increased by 2.2% and 38% of all FDI received by Catalonia was earmarked for industry. Therefore, Catalonia's aim of maintaining production should also help increase R&D&I activities in mature industries.

05

The competitive advantage of Catalonia and the Barcelona area regarding traditional FDI stems from:

- The technical training of human capital. 75% of foreign companies in mature industries consider the level of technical personnel and university graduates to be high or very high.
- Policies and incentives related to R&D&I together with investment in scientific infrastructures.
- Access to high-capacity transport and logistics infrastructure. 63% of foreign companies in mature industries that participated in the study said that the level of infrastructure and accessibility was acceptable.
- Public-private sector cooperation.

06

FDI in emerging industries in Catalonia and the Barcelona area is consolidating New Economy industries such as biotechnology, renewable energies and ICTs in clusters designed to attract a critical mass of investment and entrepreneurial talent. In biotechnology, the Barcelona area is becoming an international benchmark for the creation of new companies, with a growth rate of 30%, which is higher than the European average.

07

The competitive advantage of Catalonia and the Barcelona area regarding FDI in emerging industries stems from:

- The availability of technological infrastructure. 59% of the foreign companies in emerging industries consulted said the technological infrastructure in Catalonia was acceptable.
- The existence of a network of related companies at the local and global levels and service providers.
- An attractive lifestyle for qualified professionals and international entrepreneurs. 90% of the companies in emerging industries that participated in the study said they were satisfied with the cultural, sports and leisure activities available in the Barcelona area and Catalonia.
- The public administration helps develop new business projects.

08

The human capital available in the Barcelona area and Catalonia constitutes a competitiveness factor in its own right. 87% of the companies consulted said they were satisfied with the level of university qualifications and technical training. This is also an area in which the public administration can have an impact by creating synergies between the business community and academia.

09

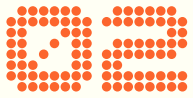
European and North American companies emphasized a set of opportunities for the Barcelona area and Catalonia that can help increase the attractiveness of the region:

- Support from the public sector for the development of the New Economy through initiatives aimed at the most relevant factors for companies from these regions that invest in industries such as biotechnology, nanotechnology, etc.
- Focusing on the values of entrepreneurship and international exchange as a differentiating and positioning factor in Europe.
- Providing and spreading information on available services and incentives to foreign companies in the process of setting up in Catalonia.

10

Asian companies highlighted the competitive advantage of Catalonia that plays a part in the investment decisions of Asian companies in this area:

- The existence of a competitive business community that offers support and provides the services these companies need for their activities is a highly important factor for them. More than 80% of the Asian companies participating said they were satisfied or very satisfied with the level of concentration of companies in related industries.
- The availability of information on the things that make Catalonia and Barcelona stand out in terms of work culture, values, the involvement of the public administration in the business climate, etc., due to their perception of Europe as a homogeneous unit.
- The dissemination of successful cases of businesses launched with Asian capital to provide references for new investors.



INTRODUCTION TO THE STUDY AND THE ECONOMIC CONTEXT





2.1 Introduction to the Study

Barcelona City Council's Area of International Economic Promotion and Invest in Catalonia (Catalan Government - ACCIÓ) have prepared the fifth edition of the study "Foreign Investment in the Barcelona Area and Catalonia" with the collaboration of PricewaterhouseCoopers.

Unlike the previous edition, which came out in June 2007, this one has been issued in a climate of uncertainty for foreign direct investment (FDI) and for the economies of Catalonia and the world. With this in mind, the study focuses on the features of the Catalan economy that have made Catalonia and the city of Barcelona a model for the entire world when it comes to attracting business projects and flows of FDI from all over the world.

Despite the current economic situation, the trends that have been prevalent in recent years are still valid regarding industrial production, the shift of the most advanced economies towards the New Economy and the organization of the economy in complex networks.

With all these factors in play, positioning the economy of the Barcelona area (and, by extension, that of Catalonia as a whole) as an attractive place for FDI represents a real challenge for the future, as well as a wealth of opportunities. As discussed in different sections of the study, in the immediate future Catalonia has to make its capacity to maintain the level of inflows of FDI in so-called traditional industries compatible with the strong push it must give to the emerging industries that are expected to drive the world economy in coming years.

With regard to the study, ACCIÓ and Barcelona City Council's Area of International Economic Promotion decided to make a drastic change in their methodological approach and structure. The main part of the study has the following sections:

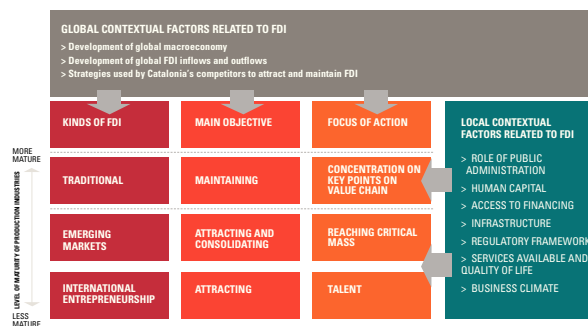
- An initial section that presents the **main conclusions of the study**, with a breakdown of the Catalan economy's strengths and potential for growth and as an attractive destination for FDI.
- A statistics section with the main macro-economic figures of the **current and recent context of FDI in Catalonia and the world**, as well as the defining features.
- A section dedicated to **traditional FDI in Catalonia**, which is understood to mean FDI targeted at companies in mature, consolidated industries and FDI from countries with a long-term presence in Catalonia. In this section, the emphasis is on the main challenges of consolidating investment and the points on the value chain that will be the most important in coming years: research and development and innovation (R&D&I), logistics and distribution.
- A section dedicated to **FDI in emerging industries in Catalonia**, especially in New Economy industries that are expected to play a key role in the future of Catalonia and the rest of the world, especially biotechnology, renewable energies and information and communication technologies (ICTs). Special attention is paid in this section to the concept of international **entrepreneurship**.
- The last section, which is on the **geographic analysis of FDI in the Barcelona area and Catalonia**, discusses the investments made by countries with an historic, consolidated presence in Catalonia and those that have a growing importance in the Catalan economy, especially Asian and Mediterranean countries. Finally, the defining features and different opportunities of these regions are compared.

2.2 Methodological Approach and Conceptual Framework of the Study

According to the register of foreign companies in Catalonia, there are more than 3,100 foreign companies operating in Catalonia that represent approximately one third of the foreign companies in Spain¹. In terms of geographic concentration in Catalonia, approximately 90% of foreign companies are located in the Barcelona area. For the purposes of this study, the **Barcelona area is understood to be** the Barcelona metropolitan area, which covers the administrative limits of the city, plus the 7 counties that surround it: Barcelonès, Maresme, Garraf, Baix Llobregat, Vallès Oriental, Vallès Occidental and Alt Penedès.

The study on FDI in Catalonia is based on an unique **conceptual framework** developed for this edition that adapts to the structure of sections presented in the past. This conceptual framework is based on the hypothesis (see Figure 1) that different kinds of FDI can be defined based on the level of maturity of the production industries and the companies operating in the region. Each kind of FDI can be associated with a main objective, as well as a specific focus of action. These **different associated strategies** basically seek to increase the amount of FDI projects and flows throughout the region.

FIGURE 1. FDI CONCEPTUAL FRAMEWORK



NOTE: "Local level" is understood to mean the opposite of "global", i.e. the area under study: the Barcelona area and Catalonia. Source: Prepared by PwC.

¹ By July 2009, a total of 3124 companies had been surveyed. Invest in Catalonia.



The context in which companies make decisions on FDI in Catalonia has two parts. On the one hand, it is made up of factors that can be considered local. The role played at the local level has direct implications on decisive aspects such as the availability of a wide range of infrastructure, the excellent level of human capital in the region and the existence of a certain business climate. Furthermore, at the global level there are also factors that can have a decisive effect on companies' strategic decision making regarding future FDI, such as the more or less aggressive and innovative strategies that other regions can implement to attract new FDI.

As mentioned above, one point that was different about this year's study compared to previous editions was the innovative focus on the work methodology. Rather than have a representative sample of companies fill out a questionnaire, techniques were used to acquire a more accurate reading of the more qualitative aspects of the current situation, challenges and opportunities faced by major foreign companies in Catalonia. The main parts of this new methodology are as follows:

BOX 1. ABBREVIATED METHODOLOGY OF THE STUDY

In-depth interviews with 8 facilitating agents, including chambers of commerce, foreign consulates and other reference institutions in the area of FDI. These agents were included to provide a contrast with the working approach and to highlight the factors that make FDI in Catalonia different.

The organization of discussion groups in the form of industry and geographic workshops, which involved arranging them in two large groups, depending on whether they represented FDI in traditional or emerging industries and markets. A total of 6 workshops were organized with the presence of 45 companies:

FDI IN TRADITIONAL INDUSTRIES

1. Point on the R&D&i value chain: future trends and challenges
2. Point on the logistics and distribution value chain: future trends and challenges
3. Specific features of FDI from the United States and Canada

FDI IN EMERGING INDUSTRIES

4. Specific features of FDI from Asian companies
5. Specific features of FDI in emerging industries
6. International entrepreneurs

These discussion groups were structured as follows:

PART 1

Differences in the industries and geographic areas involved, such as:

- The dynamic nature of the business community
- The key factors for competitiveness of the economy in Catalonia and the Barcelona area
- The focus on added-value activities
- The role of clusters
- Experiences in the area of public-private cooperation

PART 2

Gathering primary data through questionnaires from participating companies, divided into the following 8 contextual areas and a total of 32 variables, rated according to the level of importance and the current level of satisfaction:

- Investment context
- Investment costs
- Human capital
- Work culture
- Infrastructure
- Available services
- Legal and tax framework
- Financing

• **Personal interviews at companies** to complement the discussion groups and carry out case studies.

Finally, the analysis of secondary data was maintained from previous editions that provided a relevant contextual perspective in terms of

industry and geographic trends on the evolution of FDI over time.

2.3 Opportunities of FDI for Catalonia in a Context of World Economic Change

FDI constitutes a key part of the rapid economic integration witnessed in recent years at the world level. **FDI represents a way to create stable, direct, long-lasting ties between economies.** At the same time, FDI has become an important tool for the development of the local business community and can help improve the competitive position of the receiving economy and the investor beyond its own borders.

In particular, **FDI facilitates the transfer of technology and know-how between economies.** It also provides opportunities for the economy of the country making the investment because its products are promoted more extensively on international markets.

The significant growth in the volume of FDI in recent decades and the way in which FDI has spread throughout the world reflect both an increase in the size and number of FDI transactions and projects, and an increase in the diversification of the companies in different economies and industries. Large companies, corporations and multinational holding companies traditionally played a dominant role in these global transactions. However, in recent years, there has been a consensus that small and medium-sized companies have played a role of growing importance in FDI⁴.

⁴ OCDE. *Benchmark Definition of Foreign Direct Investment*, 4th Edition, April 2008.



In 2007, world outflows and inflows of FDI increased by more than 50% compared to 2006³. Likewise, the number of FDI projects throughout Europe increased by 5% compared to 2006, and by 95% compared to 2002⁴. It should be borne in mind at the present time that the evolution over time of global FDI figures is closely linked to the evolution of the economic and financial situation. Therefore, once the necessary adjustments have been made in the world macroeconomic panorama, some kind of recovery by 2010 of the different indicators, as forecast by the main institutions⁵, should result in increases in FDI flows and projects throughout the world.

This context of global economic adjustment coincides with another process, which is neither new nor recent, and involves the accelerated evolution of advanced economies in the New Economy. As an advanced economy, Catalonia is no exception, and its own production industries are going through their own development.

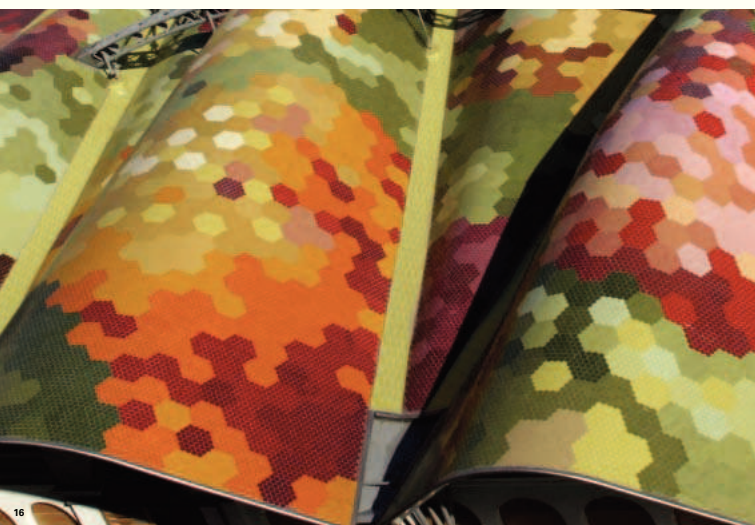
Over the last three decades, the Catalan economy, with its strong industrial character, has become an economy every time more based primarily on knowledge, and Catalan society now depends more directly on the production, dissemination and widespread use of knowledge and information. In this regard,

general movements are taking place in terms of the **tertiarization of industrial activities** and the **"industrialization" of service activities**.

In this context, the strategies of attracting, maintaining and consolidating FDI have to be adapted to new consumer needs, production methods, and especially to contextual, energy and environmental factors.

Catalonia and the Barcelona area in particular face the double challenge of increasing their competitiveness in attracting FDI and maintaining and improving the level of satisfaction of the businesspeople operating in the region.

The aim of this document is to provide a working tool to fulfil the objectives mentioned above and to present Catalonia as an attractive location for FDI in the global context. Barcelona City Council's Area of International Economic Promotion, Invest in Catalonia (ACCIO) and PricewaterhouseCoopers would like to express their sincere thanks to all the people, companies and institutions that participated and cooperated in the different phases of the project by so graciously providing their opinions and input.



³ www.oecd.org
⁴ European Investment Monitor 2008 Report.
⁵ The International Monetary Fund has forecast global growth of 2.5% of GDP by 2010 compared to a drop of 1.4% in 2009.
<http://www.imf.org/external/pubs/ft/press/2009/update/02/pdf/0709.pdf>



CURRENT SITUATION OF FDI IN CATALONIA AND THE REST OF THE WORLD

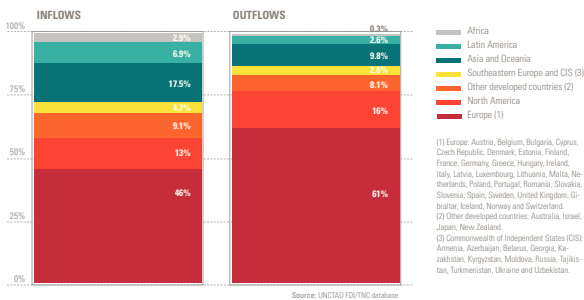
The evolution of FDI over time is not markedly different from the progress of economic activity; it is, in fact, a consequence of economic activity. This section provides a brief and basically quantitative overview of the most recent data on individual and aggregate FDI flows received by different regions in the world. This analysis is followed by a brief reflection on the trends described recently in the different strategies being used throughout the world to attract FDI, regardless of whether or not they are linked to macroeconomic development. Finally, the in-depth analysis of the situation in Catalonia provides the main conclusions and outlines the different characteristics of the investment made in Catalonia by foreign companies.

3.1 Current Situation of FDI in the World

After experiencing a major increase in the first years of the 21st century, the aggregate figure of FDI flows generated or received by different world regions reached its high point in 2007. The latest

data published by UNCTAD show an aggregate figure for FDI flows of \$1.6 trillion, which represents a 10% reduction compared to the previous year.

GRAPH 01. WORLD FDI BY REGION (2008)

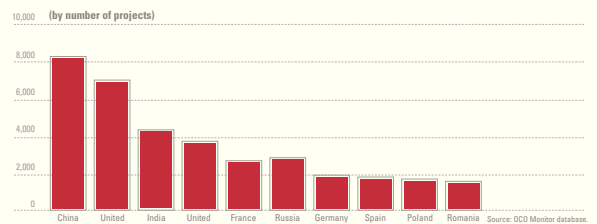


The drop in FDI has been more pronounced in developed countries and has been much smaller in developing and transition countries.

There is considerable consensus among the main reference institutions that in financial year 2010 the macroeconomic situation is expected to start improving again, which will affect the recovery of FDI flows around the world.

An analysis of inflows and outflows of investment in different regions shows the dominance of Europe, which accounts for nearly half of inflows and outflows of FDI. Strictly with regard to inflows of FDI, the region of Asia and Oceania receives about 5%, which is nearly twice what it produces.

GRAPH 02. DISTRIBUTION OF FDI ATTRACTION AT THE WORLD LEVEL (2003-2008)



By country, more than one fourth of the FDI projects in the entire world originate in the United States, whereas Germany generates one tenth of the total. In the cumulative total for 2003-2008, Spain produced 2.5% of the world total.

China, the United States and India occupy the top three positions in terms of the number of projects

received, a fact that explains the importance of new emerging countries on the world economic panorama. In this classification, Spain is ranked eighth.

However, in reference to the volume of FDI, Spain is in the seventh position worldwide, and the fourth in Europe, with a market share of 3.9%.

3.2 Increased Competition to Attract FDI

Not all FDI is the same. Different kinds of companies have different reasons for investing beyond the borders of the country where they have their main operations. Likewise, these same companies assess the decision to invest in different ways and have different priorities when choosing where to invest. In fact, these reasons and priorities have changed a great deal in recent years.

Many governments consider FDI in terms of the number of jobs created. However, FDI can have a considerable direct and indirect impact that may vary depending on the kind of FDI attracted, the region's level of economic development, the ties between FDI and the domestic economy and the degree to which the promotion of FDI is included in the economic strategy of the region receiving the investment.⁶

The fact that there has been a reduction in the amount of FDI around the world has automatically led to an increase in competition for a smaller number of projects. In this context, it will be more crucial than ever for governments (and their promotional organizations) to impact investment decisions by providing timely information on the region and production industries, and to provide additional services, such as accompanying companies as they explore their investment options.⁷

All this is relevant for attracting new investments and maintaining the FDI being received in the region, because improving service and monitoring by the local government can ensure jobs are maintained.

Finally, new, more efficient approaches towards traditional promotional services, providing information and other services such as accompanying potential investors can ensure the success of FDI promotional offices at a time when many public administrations are facing major budget cuts.

Other considerations that are the result of different studies⁸ indicate that, regardless of trends in global economic activity, where FDI plays a key role, companies around the world are looking into new markets and exploring the competitive advantages they have to offer. In other words, without bearing in mind the dollar value of these flows, the number of countries in different parts of the world receiving FDI flows is increasing, as are the creation of wealth and new opportunities in parts of the world that, until recently, received little investment.

⁶ Foreign Investment Promotion Center – World Bank
⁷ Global Investment Promotion Benchmarking 2009 Summary Report, World Bank Group
⁸ IBM Plant Location International
⁹ Cushman & Wakefield, European Cities Monitor 2009

3.3 Current Situation of FDI in Catalonia and the Barcelona Area

Within the context of Spain and Europe, Catalonia plays a leading role when it comes to attracting global FDI. This has been corroborated by several studies, such as the 2008 European Investment Monitor, which positioned **Catalonia as the fourth most attractive location for setting up a business** in a ranking topped by the region of Greater London. In another recent study by Cushman & Wakefield,⁹ the Barcelona area was ranked fourth out of 34 leading European cities

as a place to do business, bearing in mind a wide range of contextual factors.

Catalonia has historically been a high-priority destination for foreign companies seeking new locations to do business. FDI projects are implemented in Catalonia in a wide range of traditional and highly innovative industries, which demonstrates the region's ability to welcome a wide spectrum of foreign business initiatives.



In line with total world development and that of the main developed economies, the Catalan economy has behaved similarly in relation to the FDI

flows received in the last ten years. Total flows of FDI received in Catalonia in 2008 amounted to € 3,45 billion¹⁰.

GRAPH 03. EVOLUTION OF WORLD FDI AND FDI GROWTH IN CATALUNYA IN THE LAST TEN YEARS



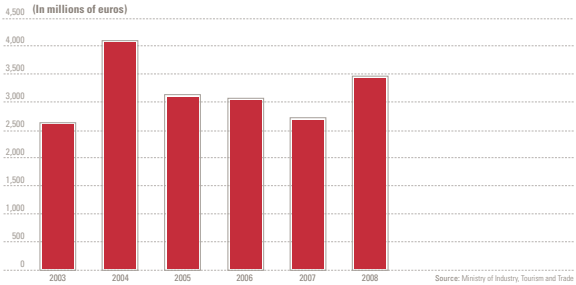
Source: UNCTAD FDI/TNC database and Ministry of Industry, Tourism and Trade.

90% of the foreign investment received in Catalonia comes from the EU-27, 4.4% from other OECD countries and 5.6% from the rest of the world. According to the investment criteria of ultimate origin, France, with 627 million Euros and an increase of 219.8% heads the list of investors with more than a quarter (29.5%) of the volume reached in 2008. The Netherlands is in the second position (19.1%), followed by the USA (9.8%) and

the United Kingdom, Germany and Italy, each one contributing about 6%.

The gross foreign investment in Catalonia the first quarter of 2009 (data are provisional) reached 160.4 million Euros, which represents 7.5% of 2008 total and 14.5% of Spain's inward investment during that period.

GRAPH 04. EVOLUTION OF GROSS FDI IN CATALUNYA (2003-2008)



Source: Ministry of Industry, Tourism and Trade
Note: FDI includes ETVs and NQ ETVs operations. ETVs are the FDI operations carried out in Spanish holding companies.

TABLE 01.
NUMBER OF FOREIGN COMPANIES OPERATING IN CATALUNYA

COUNTRY OF ORIGIN	2006	2008
Germany	705	537
France	519	671
United States	399	392
Italy	356	360
Netherlands	198	224
Japan	148	153
United Kingdom	140	147
Switzerland	111	107
Belgium - Luxembourg	87	90
Denmark	67	73
Sweden	62	58
Portugal	46	53
Austria	44	58
Canada	28	25
Finland	20	19
Norway	15	18
Other	55	139
Total	3,000	3,124

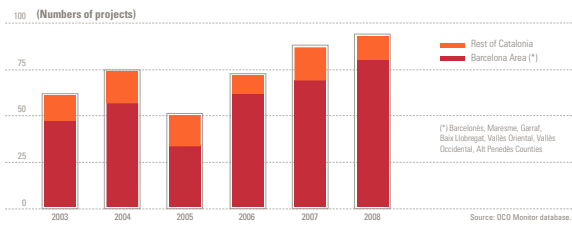
Source: Invest in Catalonia.

¹⁰ Ministry of Industry, Tourism and Trade

A comparison between 2006 and 2008 reflects the stability of the total number of companies. Indeed, 40% of these companies have been operating in Catalonia for more than 10 years, which indicates the level of loyalty of the investments in the region and its sustained competitiveness.

With regard to the Barcelona area, the analysis of the number of FDI projects attracted over the years indicates that these projects represent at least 75% of the total number of projects in Catalonia and, in 2008, these projects accounted for 87% of all projects.

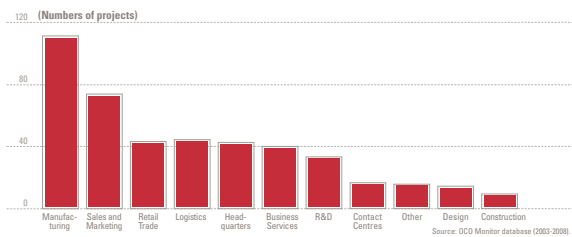
GRAPH 05. DISTRIBUTION OF FDI PROJECTS IN THE BARCELONA AREA AND CATALUNYA (2003-2008)



When the number of projects attracted is broken down based on the field of activity, it can be seen that 57% of the projects implemented from 2003

to 2008 focused on the activities of manufacturing, marketing, retail trade and logistics.

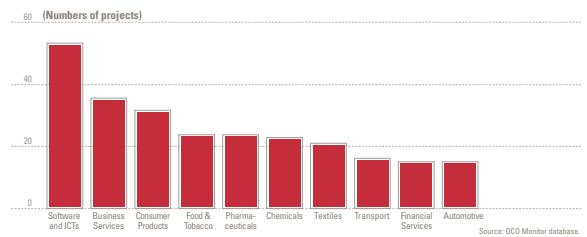
GRAPH 06. FDI IN CATALUNYA BY FIELD OF ACTIVITY (2003-2008)



In line with the growing importance of emerging industries, the advantages offered by the Barcelona area and Catalonia for FDI have evolved. There are currently activities and niche markets in keeping with this advanced level of develop-

ment. These activities involve high added value and a considerable technological level, with an emphasis on quality, differentiation, R&D&I and design.

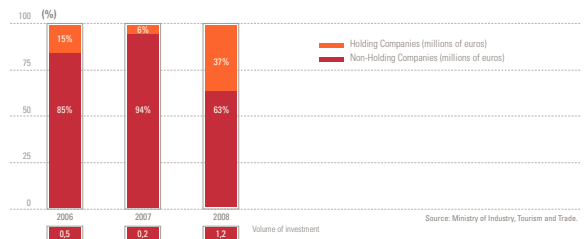
GRAPH 07. INDUSTRIES ATTRACTING THE MOST FDI IN CATALUNYA (2003-2008)



Moreover, when the number of FDI projects started up in Catalonia in the last 5 years is broken down by sector, we can see that **software and ICTs** accounted for more than 20% of these projects and that, along with business services and consumer products, they represented half of the FDI projects carried out.

Finally, based on the kind of FDI, and distinguishing between FDI generated by holding companies and firms that are not holding companies, i.e. production FDI, the analysis shows that there was a considerable increase in 2008 in the proportion of investment through holding companies, which constituted more than one third of all the FDI received.

GRAPH 08. INVESTMENT BY HOLDING COMPANIES AND NON-HOLDING COMPANIES IN CATALUNYA





**TRADITIONAL FDI IN
CATALONIA: CONCENTRATED
IN KEY POINTS ALONG THE
VALUE CHAIN**





Traditionally, foreign investment in Catalonia has come from companies in consolidated businesses and industries, and basically from advanced economies. Traditional FDI is also characterized by the fact that the companies that set up in the host country, in this case, the Barcelona area and Catalonia, generally fit the traditional model of parent company-affiliate company, which means the decision-making centre is far from the place where the FDI is invested. Another characteristic of traditional FDI is related to the fact that the required *know-how* is also consolidated and readily available in a wide range of places.

In the case of Catalonia, the main competitive factor for attracting FDI has historically been cost. Although this scenario was fully valid for most of the second half of the 20th century, increased competition in the European Union and competition from regions where costs are lower has largely changed the current situation.

Therefore, in the case of traditional FDI in Catalonia, emphasis is now being placed on the points on the value chain, such as R&D&i and logistics, that make it possible to maintain or increase the

competitiveness of the region as an attractive place to invest. For this reason, two workshops were held with companies to focus on these points.

FIGURE 2. THE VALUE CHAIN AND TRADITIONAL FDI

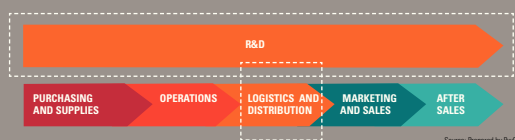


FIGURE 3. KEY FACTORS AND ACTORS IN TRADITIONAL FDI



The following subsections show the relationship between the evolution of the different production industries in the Catalan economy and the changes taking place in traditional FDI in terms of the

redefinition of company strategies and new needs. Also addressed are the actions taken by other economic actors in the region to successfully ensure and retain traditional investment.

4.1

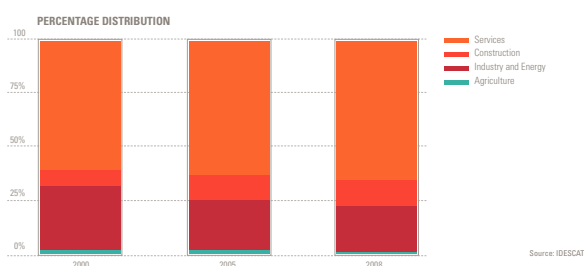
The situation of the business community in mature industries: The focus on activities with high added value and knowledge-intensive activities

The Barcelona area and Catalonia in general have evolved from an industrial economy into one based on knowledge. This process, which began decades ago, has sped up considerably in recent years, thanks to major technical advances and

other basic trends, i.e. chiefly the progressive structural change towards a service-based economy, with an increase in tangible capital and, in particular, the increased and growing importance of processes linked to innovation.



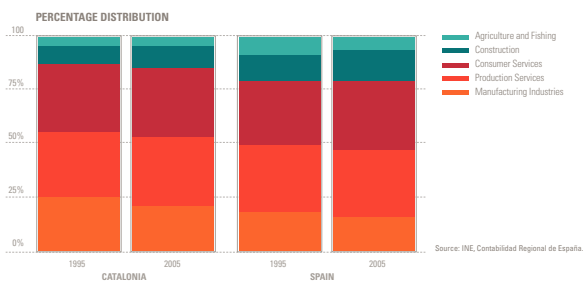
GRAPH 9. TRADITIONAL DISTRIBUTION OF GDP IN CATALUNYA BY INDUSTRY



Although traditional industry continues to play a key role in the creation of wealth, the fact that it has lost relative weight, especially in terms of job

creation, should be understood in the context of the generation of new synergies between manufacturing and services functions.

GRAPH 10. EVOLUTION OF EMPLOYMENT IN MAJOR ECONOMIC SECTORS: CATALUNYA AND SPAIN



The "integrated" sector – manufacturing and services for production – represented 55.7% of total employment in Catalonia in 2005, which was 8.5% higher than the Spanish average.

The successful convergence between knowledge-intensive activities in the industrial and services sectors and new technologies has had effects on advanced Western economies such as the Catalan economy. Following are the main benefits for the business community¹¹:

• The internationalization of production processes and the effects on how companies are organized.

• Major changes in the nature and dynamics of markets and company strategies.

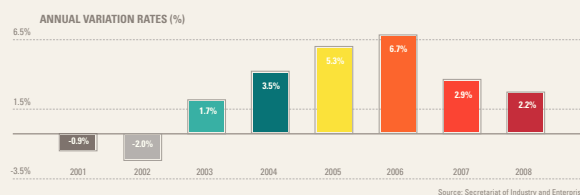
• The growing interrelationship between manufacturing and service activities in companies and along the value chain, and also in terms of technological and economic interdependence.

By restructuring logistics and distribution processes in companies in mature industries, the trend in recent years has been to **focus on increased technological development at key points along the value chain**. Therefore, for different mature industries in which logistics constitutes a relevant part of the financial results, all the investment in distribution and information-systems infrastructure can result in considerable benefits for the affiliate company and, ultimately, for the parent company.

The rate of industrial investment in Catalonia remained positive in 2008

One of the highlights of 2008 was the evolution of industrial investment, which continued to increase for the sixth consecutive year and finished at 2.2%. This demonstrates the industry's drive to renew its equipment, production systems and technology as a key way to stay competitive.

GRAPH 11. INDUSTRIAL INVESTMENT IN CATALUNYA

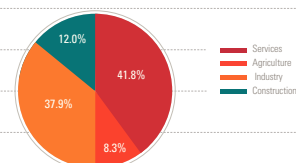


This fact is important, bearing in mind the weight of industry in traditional FDI. 38% of all

FDI received in Catalonia is earmarked for the industrial sector.

GRAPH 12. FDI IN CATALUNYA IN TRADITIONAL SECTORS (2003-2008)

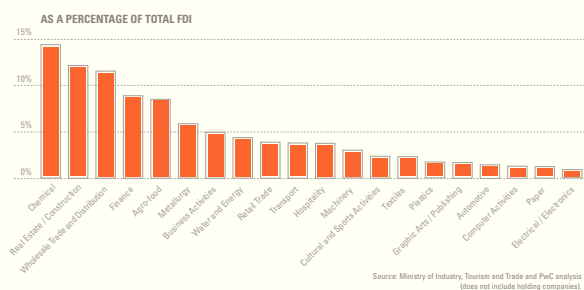
AS A PERCENTAGE OF TOTAL FDI



¹¹ "La nova indústria: el sector central de l'economia catalana". Papers d'economia industrial no. 26. Catalan government, Ministry of Labour and Industry. Secretariat of Industry and Energy.



GRAPH 13. FDI IN CATALUNYA BY INDUSTRY (2003-2008)



4.2

The business model of companies in mature industries: The R&D&i opportunity.

As a result of the different interviews and discussion groups with foreign companies in mature industries, it was found that these companies

spend a considerable amount on R&D&i, modernizing their production structures and integrating with suppliers and clients all along the value chain.



FOREIGN INVESTMENT IN THE BARCELONA AREA AND CATALUNYA • TRADITIONAL FDI IN CATALUNYA

As a result, Catalonia is becoming even more attractive as a place for FDI for mature industries positioning themselves to offer competitive advantages at the points along the value chain that are expected to show the best prospects for companies in coming years.

The number of innovative companies between 2005 and 2007 was 10,470, a figure that represents 27.4% of all companies¹⁴. In terms of the kind of innovation, the greatest trend is in process innovation, followed by product innovation.

The Barcelona area has a solid base in the area of research and innovation and the drive of public and private investment in this area is setting the international benchmark.

Catalonia is the origin of nearly 1% of world scientific production (on a par with that of Finland and Scotland), 2.5% of that of EU-15 and more than 25% of that of Spain¹⁵.

The fact that the foreign companies operating in the Barcelona area focus on R&D is becoming one of the ways to maintain FDI flows. Because R&D is closely linked to production in traditional industries (electronics, automotive industry, pharmaceuticals, etc.), Catalonia's focus on maintaining and attracting production should also bring R&D activity along with it.

FIGURE 4. STRONG POINTS OF R&D&i IN CATALUNYA



Source: Prepared by PwC

Moreover, in terms of the human capital working on R&D, though Catalonia has traditionally concentrated more on development activities than research, it holds a competitive position compared to other regions. Therefore, the number of specialized personnel, along with aspects such as improved protection of intellectual property, makes the Barcelona area competitive when it comes to possible offshoring in this specific context. As a result, Catalonia is more competitive than regions such as Asia because of the protection provided by the legal framework, good professional practice and the rigour of the standards and procedures to be followed, which is particularly true in sectors such as the pharmaceutical industry.

Finally, in the area of public-private cooperation, the strategy of encouraging companies to participate in the operations of research and technology centres could involve providing incentives for communication and the participation of the private sector in decision making on major investments in R&D&i. This could involve formulas for public-private partnerships and including leading companies in the industry, which would strengthen the commitment and involvement of the business community in the results of these partnerships.

¹⁴ Idescat.
¹⁵ National Agreement on Research and Innovation.



4.3

The competitive advantage of Catalonia and the Barcelona area in terms of traditional FDI

Year after year, the governments of all advanced and emerging economies try to increase their inflows of FDI by improving their business climate, developing different guarantees for investors and offering several kinds of incentives.

According to the Organization for Economic Cooperation and Development (OECD), the most important factors considered by investors when deciding on setting up in a specific location include:

- A predictable, non-discriminatory regulatory framework and a lack of unjustified administrative red tape for business.
- A stable macroeconomic context, including facilities for international trade.
- Sufficient accessible resources, including the presence of relevant infrastructure and human capital¹⁴.

As a result of the discussion groups and interviews carried out with the group of companies that generate traditional FDI, the aspects they are most interested in were identified in relation to **company needs and the competitive advantage of the Barcelona area and Catalonia** in these areas:

- The existence of policies, incentives and investment in infrastructure in relation to **R&D&i**
- High-capacity **transport infrastructure** for carrying out logistics activities
- A fluid, expeditious relationship with institutions for **administrative procedures**
- The promotion of new forms of **public-private cooperation**

- Skilled **human capital** at reasonable costs (see Section 4.4)

R&D&i: the focus on networks and public aid

One of the main things being concentrated on in the Barcelona area to make it more attractive for potential FDI is related to technological infrastructure. Companies have acknowledged the effort made by the different public administrations to create technology centres and increase incentives and programmes. As a result, **81% of polled companies in mature industries consider the level of technological infrastructure in Catalonia to be acceptable**, and 13% said they were very satisfied.

Catalonia has many technological research parks operating in a competitive context in the region. This action is producing good results and giving these centres a reputation for being benchmarks in their fields. One of the ways to expand on this strategy is through cooperation between centres (in Catalonia, Spain and the rest of the world) to offer increased specialization and the availability of infrastructure to make this cooperation more attractive to major companies, as well as those with international capital.

¹⁴ Checklist for Foreign Direct Investment Incentive Policies. OECD.

SUPPORT FOR THE TECNIO NETWORK IN CATALUNYA

TECNIO¹⁵ is a network that connects the main technology-transfer centres and agents in Catalonia with the aim of creating contact between companies and favouring the competitiveness and international projection of the Catalan business community. The advanced technology centres of the Tecnio network currently include: Ascamm, Leitat, CTM, Cetemmsa and CIBM.

They have been entrusted with the following two missions:

- **Consolidating and promoting the technology-transfer model to generate a Catalan technology market that makes companies more competitive.** The new network has more than 100 agents specializing in the technology-transfer system in Catalonia. It is currently made up of technology centres, advanced technology centres and university groups. New agents such as hospital research foundations and research centres are expected to join the network in the near future.
- **Equipping companies with technology to provide added value to their projects and become a springboard for their projection abroad.** With the aim of increasing the competitiveness of companies, TECNIO detects the needs of Catalan companies and informs them of the technological capacity of the agents in the network. Companies can find a technology ally to implement R&D&i projects, solve their technology needs and receive support in the management of incentives and projects.

Therefore, **technology parks can help attract new FDI flows in the area of R&D** because they are equipped with virtual networks and latest-generation technologies. They also have guidelines on the different lines of research to be carried out, incentives for efficiency and productivity, and a long-term strategic approach, which makes them **one of the region's outstanding assets**.

Moreover, one of the basic conditions for **R&D&i activities to be carried out by foreign companies in Catalonia is a network of excellent small companies** in very specific fields (consulting, the manufacture of components and prototypes, design, etc.).

At the institutional level, the **National Agreement on Research and Innovation (PNRI)** has entered into effect. It provides a roadmap on research and innovation for the next 15 years. The main aims of this agreement are to position research and innovation as a leading priority on the political, social and economic agenda, improve the mechanisms for collaboration between universities and companies, and establish the steps

to be taken to ensure research and innovation policies are efficient and effective.

Along similar lines, the **Strategic Agreement to Promote the Internationalization, Job Quality and Competitiveness of the Catalan Economy, 2008-2011** puts forth different measures to increase economic productivity. The agreement is structured in 8 major areas: infrastructure, employment and training policies, R&D&i, social policies, labour relations, financing economic activity, creating an environment that favours business activity and internationalization.

¹⁵ www.aac10.cat/tecnio



THE STRENGTH OF R&D&i INCENTIVES

The companies currently operating in the Barcelona area and Catalonia have access to a wide range of financial grants and incentives aimed at promoting innovation¹⁴. In general, this financial aid can be differentiated as follows:

Financial aid

Aid to finance projects to improve technology, support programmes for innovation in SMEs and to create incentives for industrial research and experimental development projects, among others.

Soft loan lines

These loans are granted with terms and conditions that are more advantageous than market conditions. The focus on soft loans as a way to support different business initiatives is becoming more consolidated. For example, loans are available for business projects at innovation centres and for R&D&i and industrial modernization.

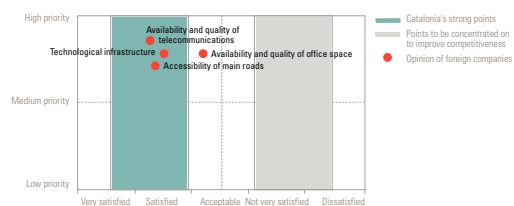
Infrastructure

For companies that generate traditional FDI, a high priority is having access to good connections, especially through airports and ports, so that goods can be moved on short notice. Moreover, because logistics is important in these companies, advances in terms of goods transport, arrival and distribution points, and an increase in the capacity of different communication routes are key to making a region more attractive.

When companies that generate traditional FDI were asked about infrastructure in the broadest sense (communication, technological, telecommunications and physical capital infrastructure), it was found that 75% consider this infrastructure in general to be acceptable or satisfactory.

It is worth noting that 87% of the companies are satisfied or very satisfied with the availability and quality of telecommunications infrastructure, and 56% have the same opinion about the availability of office space and business centres, especially in the Barcelona area.

GRAPH 14. INFRASTRUCTURE IN CATALUNYA AND TRADITIONAL FDI



¹⁴ www.aact10.cat

FOREIGN INVESTMENT IN THE BARCELONA AREA AND CATALUNYA • TRADITIONAL FDI IN CATALUNYA

In terms of infrastructure that is important for attracting traditional FDI, airports occupy a prominent position. Thanks to the recent inauguration of the T-1 terminal at Barcelona airport, connectivity with major cities all over the world has improved and Barcelona has positioned itself on the same level as other European airport hubs.

In 2008, Barcelona airport handled more than 30 million passengers and more than 320,000 operations were carried out. In terms of cargo transport, more than 100 million tonnes of goods passed through the airport facilities¹⁵. Besides Barcelona airport, the airports in Girona and Reus have grown considerably, and handled 5.5 million and 1.3 million passengers in 2008, respectively.

THE PORTS OF BARCELONA AND TARRAGONA AS KEY PORTS OF ENTRY FOR GOODS IN WESTERN EUROPE

One of the strong points of Catalonia's infrastructure is its ports, especially the facilities at the Port of Barcelona, which is considered the main logistics port in Southern Europe. It handles 24% of foreign trade in Spain and 78% in Catalonia¹⁶.

In order to handle increases in traffic and become a benchmark port on the Mediterranean, new port areas are being created to double the port's capacity and improve market accessibility. The expansion of the Port of Barcelona, with an investment of €3.59 billion, will give it an area of 1,300 hectares.

The lease on the first terminal in the expansion was awarded to Terminal Catalonia, a company in which the group Hutchison Port Holdings holds a stake. Hutchison Port Holdings is the leading terminal operator in the world. The terminal will be positioned as a key platform for the flow of goods between Asia, Europe and the Americas. The Port Authority of Barcelona is working to attract the growing maritime traffic between Europe and Asia, especially traffic with China.

The Port of Tarragona, with a land area of 613 hectares¹⁷ and 36.3 million tonnes of goods traffic in 2007, is located one hour from Barcelona and is a key infrastructure for the area, which includes a petrochemical cluster that is the largest of its category in Southern Europe. More than half the traffic handled by this port is chemical in nature.

Foreign companies confirm that both facilities are able to handle an enormous volume of goods and also highlight the extensive list of daily routes to a great many countries.

After the expansion carried out at both facilities, one of the main challenges they face concerns transport intermodality, i.e. the integration of different modes of transport (air, rail, sea and road) to ensure the system is used profitably and effectively. Around 3% of the goods currently moved through the Port of Barcelona connect with the rail network and this figure is increasing by 25% per year and is expected to reach 30%.

¹⁷ www.ajma.es

¹⁶ Port Authority of Barcelona.
¹⁷ Port Authority of Tarragona.



In terms of **physical space where the foreign companies operating** in the Barcelona area carry out their activities, the conclusion reached is that there is a suitable supply of space on industrial estates, with a well-equipped network, which should be accompanied in the future by the integration of the metropolitan area of Barcelona in the Barcelona brand as a way of attracting investment. This is possible through the creation of good connection infrastructure.

Furthermore, **goods transport** is one of the key factors for companies in mature industries to determine the level of productivity of their processes. Although the road network has been quite stable in recent years, the authorities have also been taking measures to improve goods transport by rail. Within this context is the recently expanded initiative involving the transport of components, parts and finished vehicles between the SEAT factories in the Zona Franca and Martorell and between Martorell and the Port of Barcelona, in a clear drive towards sustainable goods transport that favours the decongestion of the conventional road network. This is an example of how investment in improving or expanding infrastructure can have an effect on retaining production capital and incoming flows of FDI in mature industries. Moreover, the ambition to continue making progress in this area has led to considerable consensus in recent years between the different economic and political agents involved regarding the **need to promote a major Mediterranean corridor for goods traffic**, which would guarantee high levels of competitiveness compared to the main logistics centres in continental Europe.

Modernization of the administration: support for eAdministration

With regard to the model for relations between the public administration and companies for tax and labour procedures, the consensus is that there are ways to increase competitiveness in areas such as carrying out similar administrative procedures at different offices (of the same or different public administrations) and the associated waiting times. In the recent report, *Doing*

Business 2009, which compares different indicators on the ease of doing business in a sample of 181 economies, Spain was ranked 49, a fact which highlights the potential improvements in efficiency from the perspective of management and administration associated with the procedures all companies have to carry out²⁸.

The focus on the one-stop shop, the decisive support for eAdministration, interoperability between public administrations and overcoming the difficulties of obtaining visas for professionals are some of the initiatives being developed for the immediate future that are expected to be well received by foreign businesspeople working in Catalonia. Within this context, initiatives are being put into place in several public administrations to considerably expedite the procedures to start up a business in Catalonia.

Moreover, the number of collaboration experiences has increased with the different autonomous community public administrations (such as the National Tax Administration Agency and the Catalan government) to expedite and minimize the impact of procedures on individuals and companies. **As a facilitating element, an interoperability platform has been started up**, which, thanks to the participation of specialized organizations (such as the Consortium for Open Administration of Catalonia), facilitates electronic access to documents and certificates held by the other public administrations.

Public-private partnerships

Public-private partnerships (PPPs) include different forms of cooperation between public authorities and the different economic agents. The aim of this cooperation is to finance, build, renew and use infrastructure and services. PPPs have been implemented in transport, public health, education, safety, waste management and the distribution of water and energy²⁹.

A broader concept of PPPs for the study at hand involves considering all the actions that are usually taken under the auspices of public administrations,

including the more or less active partnership of the other economic agents, as well as the foreign businesspeople working in Catalonia.

The managers of foreign companies in mature industries in the Barcelona area confirm the importance of continuing to make progress in

terms of more flexible conditions for formalizing local collaboration agreements between multinationals and public organizations to obtain grants, which will clearly facilitate cooperation between the private and public sectors.

More and more public-private partnerships are springing up in Catalonia. Of note are initiatives such as the innovative management model of the Fira de Barcelona trade fair facilities (public capital and private management) and the influx of public and private capital in a venture capital company with headquarters in Barcelona that has become a shareholder of Spanair. Moreover, in general, PPPs also promote strategic industries with the Barcelona brand.

Finally, in relation to PPPs within the framework of relations between parent and affiliate companies, the existence of cooperation between companies and public administrations and between the public administrations themselves is

viewed favourably by parent companies. A good climate for cooperation in this area makes it possible to position the Barcelona area and Catalonia as a preferred destination for receiving new FDI flows.

4.4 Human capital

The managers of companies in mature industries are unanimous in their acknowledgement of the priority represented by the level of knowledge and skills of professionals in Catalonia. In fact, **3 out of every 4 businesspeople are satisfied or very satisfied with the technical and university training of the human capital.** The result was the same with regard to universities and business schools. Moreover, foreign businesspeople feel that, based on experiences of cooperation with universities on R&D, the quality of university research is at a very high level. Thus, **with regard to R&D&i activities, professional skill is clearly one of Catalonia's strong points.**

Some of the factors identified by companies in which greater effort should be made to maintain the competitiveness of Catalonia included university-company connections, with 62%, and increased ties between universities and similar institutions abroad, with 50%.

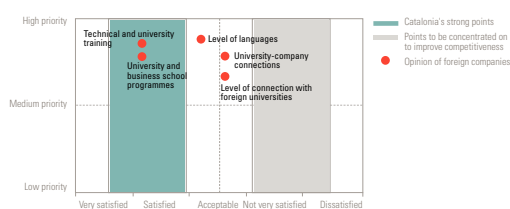
However, worth noting is that **language levels**, often identified as one of Catalonia's major weak points, are **considered by 62% of the managers of companies in mature industries to be acceptable or satisfactory.**

²⁸ *Doing Business* 2009, World Bank Group (www.doingbusiness.org). The methodology used to create this guide analyses all the Spanish public administrations, including national and autonomous community administrations.

²⁹ *Green Paper on Public-Private Partnerships in the European Union* (COM (2004) 327).



GRAPH 15. HUMAN CAPITAL IN CATALUNYA AND TRADITIONAL FDI



With regard to retaining talent, the attractiveness of the Barcelona brand plays a decisive role in attracting foreign executives and professionals, and companies feel it is necessary to focus efforts on consolidating the availability of local human capital.

The availability of professionals from all over the world with a good level of training and knowledge of languages makes the Barcelona area an attractive place to set up **shared services centres** and reflects the positioning of the region with regard to the new ways of organizing work.

Some of the points considered to be priorities in terms of human capital by foreign managers in traditional industries are:

- The general increase in the willingness to **move to a new place to work**, especially among scientific personnel, given that these managers feel that a certain amount of turnover in these positions and the experience to be gained from working for companies in other countries are advantages.

- With regard to personnel working in R&D, optimizing the **ties between research and profitability / productivity** is also an area in which the public sector could increase the attractiveness of research centres for qualified international personnel, and improve the impression that foreign companies have of the professionals living in Catalonia.

4.5 Other contextual factors

The managers of foreign companies in mature and consolidated industries in general have a **very favourable opinion of the different contextual factors** considered.

Table 2 provides a summary of the ranking of the eight contextual factors as a whole in terms of priority for the managers interviewed and their level of satisfaction with certain variables included in each factor.

The crucial points for foreign companies are the **context and the market** where they carry out their activities, the level of skills of the **human capital** they hire, the **infrastructure**, and **regulatory and tax framework** that applies to them.

TABLE 2. THE OPINIONS OF DIFFERENT COMPANIES RESPONSIBLE FOR TRADITIONAL FDI IN CATALUNYA ABOUT CONTEXTUAL FACTORS: PRIORITIES AND LEVEL OF SATISFACTION

CONTEXTUAL FACTOR		VERY SATISFACTORY	SATISFACTORY	IMPROVABLE
HIGH PRIORITY	Context & Market	- Quality of life - Geographic location - Nearness to markets and clients	- Concentration of companies	
	Human Capital	- University and business school programmes - Level of languages	- Technical and university training - Level of languages - University-company connections	- Level of connections with foreign universities - University-company connections
	Infrastructure	- Availability and quality of telecommunications	- Accessibility of main roads - Availability and quality of office space - Technological infrastructure	
	Legal & Tax Framework		- Physical context - Legislative framework	- Work and residency permits
MEDIUM PRIORITY	Costs	- Cost of qualified labour - Production costs	- Cost of unqualified labour	
	Culture & Context	- Cultural and business climate - Level of integration	- Organization of work - Productivity / efficiency of labour - Employee absenteeism - Instruction in Catalan	
	Services Available	- Cultural, sports and leisure activities	- Public transport - Shop opening hours	
	Financing		- Direct public aid - Indirect public aid - Bank financing - Venture capital	

Source: Individual questionnaires taken by companies and analysed by PwC.

As indicated in the table, company managers showed a high or very high level of satisfaction with nearly all the variables that make up each factor. Only in the case of three variables under the factors human capital and legal and tax framework did they see opportunities for improvement. These variables refer to the level of connection with foreign universities, the level of connection between universities and companies, and everything related to the procedural steps required to acquire work and residency permits in Catalonia by the personnel from the foreign company.

Variables such as quality of life, geographic and strategic location, nearness to potential markets, clients and suppliers, and the level of concentra-

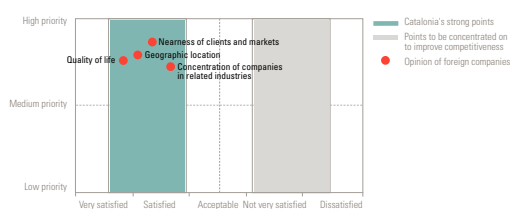
tion of companies in related industries are important for the managers of foreign companies in mature industries in Catalonia.

More than 80% of foreign companies feel that the quality of life standards offered by the Barcelona area and Catalonia are high or optimum. Likewise, 75% feel that the geographic location is one of the strong points of Catalonia that place it in front of other locations that attract traditional FDI.

Moreover, 44% of companies say they are satisfied with the level of concentration of companies in industries similar to their own, whereas another 44% consider it to be acceptable.



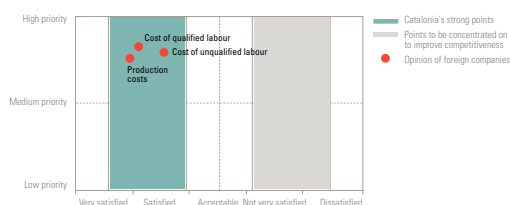
GRAPH 16. CONTEXT AND MARKETS IN CATALUNYA AND TRADITIONAL FDI



With regard to the costs incurred by companies when setting up in Catalonia and performing their regular activities, it is important to point out that nearly 7 out of 10 foreign companies consider general production costs to be satisfactory or very satisfactory.

With regard to labour, there is a certain amount of dichotomy between the perception of qualified and non-qualified personnel. Therefore, while 80% of companies are satisfied or very satisfied with the cost of qualified manual labourers, the percentage goes down to 43% for non-qualified labour.

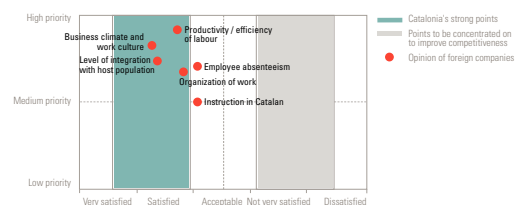
GRAPH 17. INVESTMENT COSTS IN CATALUNYA AND TRADITIONAL FDI



Regarding specific features of the organization of work in Catalonia, the factors valued the highest by foreign companies in mature industries are the business climate and work culture (62% of companies are satisfied or very satisfied), and the level of integration offered by the host population (58%

said they are satisfied or very satisfied). Productivity is considered acceptable by half of the companies. However, 50% of the businesspeople feel the rate of employee absenteeism in their areas of activity could be improved.

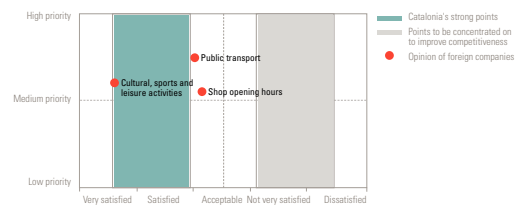
GRAPH 18. WORK CULTURE AND BUSINESS CLIMATE IN CATALUNYA AND TRADITIONAL FDI



With regard to the services available in the city of Barcelona and Catalonia, though the companies consider the quality of the public transport network to be more of a priority, the variable with the

highest score is related to cultural, sports and leisure activities, which 81% consider satisfactory or very satisfactory.

GRAPH 19. SERVICES AVAILABLE IN CATALUNYA AND TRADITIONAL FDI



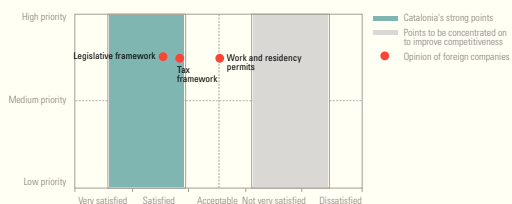
The regulatory and tax framework and the ease of interacting with the public administration are all considered major priorities by foreign companies.

table. However, half of the companies feel that the speed of processing work and residency permits could be improved.

62% of the companies are satisfied with the general regulatory framework in the Barcelona area in particular and Catalonia in general. Moreover, 44% consider existing tax incentives to be accep-



GRAPH 20. THE LEGAL AND TAX FRAMEWORK IN CATALUNYA AND TRADITIONAL FDI

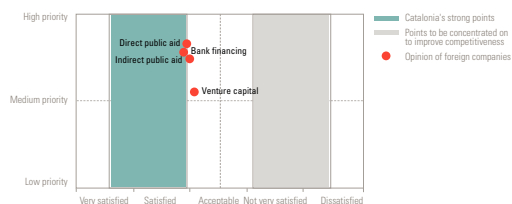


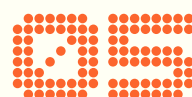
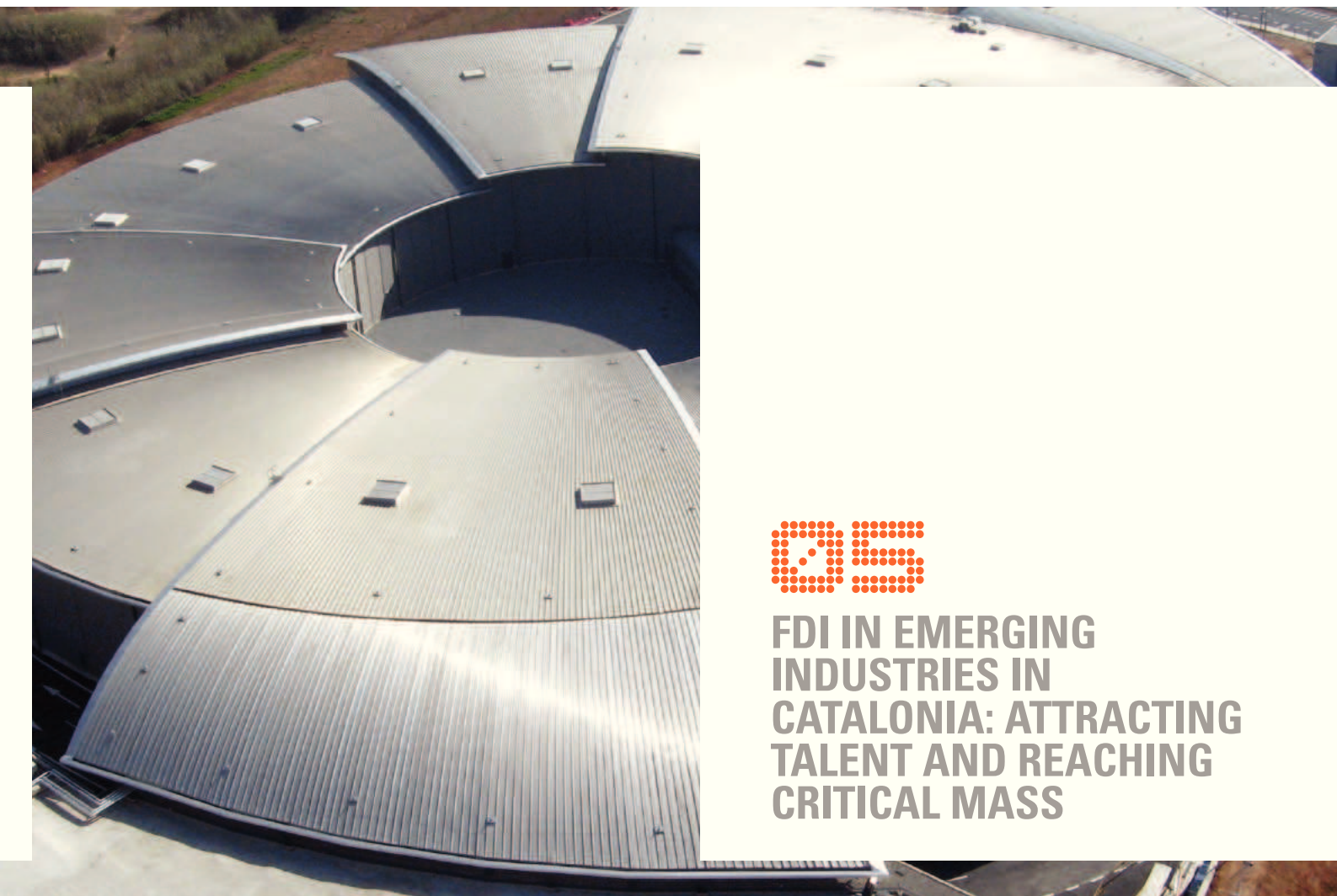
Foreign companies also expressed their opinion about the different kinds of public grants and the specific features of access to private financing. With regard to public grants, 68% of the companies consider them to be acceptable. The same percentage find access to private financing

through traditional methods, i.e. through the banking system, to be acceptable as well. Regarding venture capital, the companies in mature industries consider it to be a moderate priority, given that it is a secondary method of access to financing in these consolidated industries.

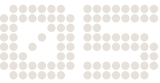


GRAPH 21. FINANCING TRADITIONAL FDI IN CATALUNYA





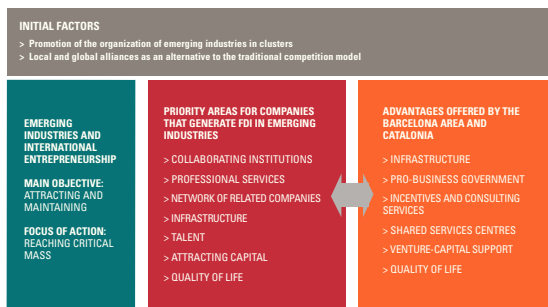
**FDI IN EMERGING
INDUSTRIES IN
CATALONIA: ATTRACTING
TALENT AND REACHING
CRITICAL MASS**



FDI in emerging industries is considerably different from traditional FDI. It is investment that takes place in the new generation of production industries that are not yet extensively implemented throughout the world or are being implemented in industries where innovation plays a key role. This investment therefore does not take place in mature industries. Rather, it is most common within the framework of the New Economy and the new consumer demands the New Economy has created. The level of consolidation of the markets of so-called emerging industries varies widely, given the different importance they have at the local and global levels, and the amount of know-how they require. Moreover, unlike traditional FDI, the conventional connection between the headquarters of the multinational and the respective affiliate companies is often broken, and the decision-making centre of these companies is often moved to the host country.

The main points discussed in this section include local-global alliances, the role of the development of clusters as a way of attracting FDI in emerging industries, the factors considered key by investment companies and how economic players respond to these factors.

FIGURE 5. KEY FACTORS AND ACTORS IN FDI IN EMERGING INDUSTRIES



Source: Prepared by PwC

5.1

The dynamics of the business community in emerging industries: A note on local-global alliances

One of the features that defines entrepreneurship in emerging industries and this business community in general is the growth these industries are expected to experience in coming years, given that they are associated with very high potential increases in productivity, as well as considerable technological improvements.

Another thing that makes these industries different is the way they work in networks and in collaboration with others. In an environment based on trust, companies are prepared to collaborate with other market agents (institutions, competitors and suppliers) to develop the business and create partnerships with the aim of taking advantage of potential synergies and contacts to grow.

In emerging industries, the reference model is based on a combination of **local and global alliances**. In general, as a preliminary step to establishing international alliances, a company has to have achieved a certain level of status in the local business community. The existence of this kind of alliance can attract international

investment, given the improved positioning of the local business community and the fact that it regularly cooperates at the global level.

Therefore, collaboration between local and international companies is positive because, on the one hand, local businesspeople can considerably facilitate contact with possible investors and, on the other, the international component can contribute know-how, given its experience launching businesses all over the world.

Many connections emerge from personal contacts. It is important for the strategies of local and international entrepreneurs to find common ground for development. Moreover, going beyond the vision of local business to infuse Catalonia with a global business perspective is one of the major challenges involved in positioning the region as an important business centre with excellent future potential. This will improve the position of the Catalan production community and attract new investment flows.

FIGURE 6. LOCAL AND GLOBAL ALLIANCES IN FDI IN EMERGING INDUSTRIES



Source: Prepared by PwC

The field study shows that one of the **challenges facing the Barcelona area and Catalonia in terms of attracting and maintaining FDI in emerging industries** involves ensuring the companies that set up have **sufficient critical mass** to continue carrying out their activities in the region. In this context, critical mass refers to the

network of **related companies** in certain industries, having enough **qualified human capital** and, most important of all, the availability of enough **venture capital** to continue supporting the business initiative. These last two points will be developed below.

5.2

The role of clusters as generators of new economic activities

Innovation plays a key role in emerging industries, which are examples of the movement towards the New Economy. These industries are also drivers of development and sources of employment. In the Barcelona area and Catalonia, the focus on emerging industries is reflected in the existence of business clusters. In fact, the distribution of several industries in Catalonia is based on the cluster concept. In many sectors, there has long been a geographic concentration of companies in the same business or value chain, many suppliers and companies providing interdependent services, as well as associations, training centres, technology centres and research specializations.

However, the government does not only concentrate on existing clusters, but also promotes those that will be important in the future, based on their growth potential and strategic value for the region.

Starting up a cluster is just the beginning. In other words, identifying the competitive strengths of a cluster calls for continuous dialogue with companies and the other economic actors involved. Though the public sector cannot be the only driver of clusters, it can be pivotal to facilitating their creation.

CLUSTERS IN CATALUNYA: SOME FIGURES

- 42 clusters
- 9,000 industrial establishments
- 235,000 employees
- €45 billion in turnover

In general, **foreign businesses operating in Catalonia** believe the organization of clusters is positive for promoting a climate of trust and cooperation. Moreover, many believe that the public administration should focus its efforts on being a **catalyst for businesses in the early stages of development and the context in which all their potential can be realized**.

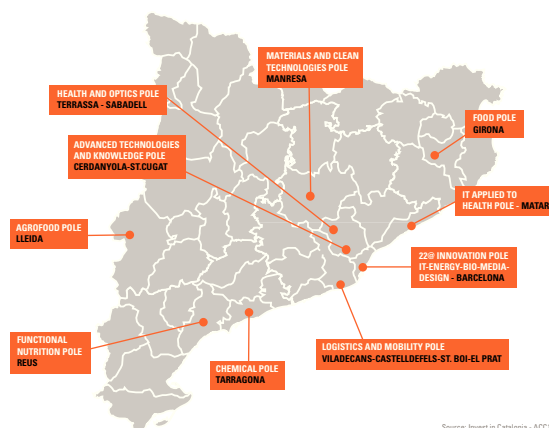
It should also be pointed out just how **important it is to generate and attract talent** as way of creating economic activity. This virtuous circle is currently coming to the fore in the Barcelona area and Catalonia, thanks to the consolidation of certain clusters under the auspices of the public administration.

²⁴ "Map of local industrial production systems in Catalonia". Papers of Economia Industrial no. 21. Catalan Government. Ministry of Labour and Industry. Secretariat of Industry and Energy.

There are currently a number of initiatives in place to promote entrepreneurship and the formation of clusters in Catalonia by making space available for companies to set up. This is the case

of the creation of science and technology parks as places for clusters to develop and the provision of new tools that provide support to spaces and environments that encourage innovation.

FIGURE 7. HIGH VALUE INVESTMENT LOCATIONS MAP



Source: Invest in Catalonia - ACCIÓ

Indeed, one of the ways Catalonia is positioning itself on the international economic scene is through the concentration of companies, organizations and related actors that are able to take advantage of proximity and mutual relations to generate synergies and create scenarios for competitive advantage.

With regard to clusters, it is important to bear in mind that they represent an organizational unit of great value for understanding and improving the performance of advanced regional economies. Moreover, viewing the economy in terms of clusters makes it possible to focus the eco-

nomc development policies of a particular region on a group of companies rather than on individual firms, thus ensuring common problems and interests are dealt with. For example, a number of companies in emerging industries have been set up in the neighbourhood of Barcelona Activa. A network has also been created that has a positive effect on the development of these companies and that promotes interaction between different disciplines.

In the Barcelona area in particular, several clusters have been identified in strategic and emerging industries such as biotechnology. Indeed,

this is one of the industries thought to have the most potential for growth in coming years. Though still in the development phase, the

Barcelona area and Catalonia have seen a considerable increase in the number of companies.

BIOTECHNOLOGY AS A LEADING INDUSTRY OF THE FUTURE IN CATALUNYA

- Barcelona is the main biotech hub in Spain. In fact, 24% of the biotech companies in Spain are located in Barcelona.
- Catalonia leads the ranking of new patents in Spain.
- The biotech industry in Catalonia is growing at a rate of 30% in terms of the creation of new companies. This rate is above the European average.

The public institutions have been supporting the biotech community and technological infrastructure in Catalonia and the creation of a top-rate public network to promote this cluster. There are currently nine science and technology parks in Catalonia with a total area of more than 500,000 m² where biotech and biomedicine activities are carried out. Moreover, of the 900 recognized research groups in Catalonia, 400 work in the area of the life sciences. The proportion is nearly the same in terms of research centres: there are 60 life science research centres out of a total of 150 research centres in Catalonia. Finally, in Catalonia, there is a total of 215 hospitals, 6 of which are leaders in Spain in terms of scientific production.

Another industry with strong growth potential and presence in Catalonia is the energy sector. Catalonia has historically been known for having companies in the energy sector and these companies are currently working on a great many R&D lines and projects in fields such as renewable energies and climate control systems. There are at present **more than 1750 companies**²³ in Catalonia working in the field of renewable energies. This industry, which is growing considerably because of the drive throughout the world in favour of renewable energies, not only calls for a favourable business climate, but also requires regulations that provide suitable incentives for investment and production in the region, especially when there is strong competition from other economies that are very active in this field.

The Energy Plan (2006-2015) and the Plan for Energy Improvement in Barcelona (PMEB) provide the strategic framework for the energy sector in Catalonia and the city of Barcelona for the near future, with the intention of giving a strong push to renewable energies and new energy infrastructure. The share of renewable energies in the energy balance is expected to go from 2.9% in 2003 to 9.5% in 2015. The construction of the Energy Park fits into this context. It will cover an area of 25,000 m² and will have educational centres, R&D centres and companies in the energy sector.

A strong push has also been given to the ICT sector in recent years, especially when it comes to strengthening the technological base and the supply of specialized professionals. Catalonia is known for being a leader in Spain in terms of the use of new technologies and the Internet by companies and the general population. Proof of this is the fact that 96% of Catalan companies have an Internet connection and this percentage is also applicable to SMEs.

Of note in this context is the creation of the Barcelona Digital Technology Centre as a benchmark organization for ICTs in Catalonia that specializes in safety, health and mobility. Its services are mainly geared towards applied research and technological development, finding applications for research, technology consulting, training and the promotion and dissemination of the use of ICTs. Also of note is the Microsoft



Pre-Incubation Program, an accompanying programme for the creation and growth of new companies in programming development, under the auspices of Barcelona Activa, Osborne Clarke and Microsoft.

BARCELONA, A PIONEER IN URBAN CLUSTERS: THE CASE OF 22@

Through the 22@ district, Barcelona has taken the initiative of creating an urban cluster that responds to the city's strategic vision of the future.

Attracting investments in key industries, attracting talent linked to new clusters, supporting entrepreneurship and reaching critical mass in industries with strong growth are some of the main challenges facing Barcelona, which is competing with other major European cities.

While bearing in mind economic and social factors, the urban transformation has helped position Barcelona as an innovative city and has provided a source of major economic growth.

Specialization in fields such as ICTs, media, medical technologies, energy and design, and investments in new centres to support companies in these technologies, as well as businesses such as shared services centres are the seeds for the materialization of new clusters in areas with a potential for growth that will be important for the competitiveness of Catalonia and positioning Barcelona as an innovative city.



²³ www.biocat.cat

²⁴ Institute for Energy Diversification and Saving (IDAE)

5.3 The competitive advantage of Catalonia and the Barcelona area in terms of FDI in emerging industries

The OECD has identified different strategies that governmental organizations often put into practice to attract FDI and the tools they use to do so. Two main strategies can be distinguished: those that bear in mind general incentives and those that take a segmented approach to specific objectives⁵⁶.

In the case of the economy of Catalonia and the Barcelona area, a wide range of strategies is being implemented in relation to FDI in emerging industries, including general measures to improve the context and business climate in Catalonia, and other incentives that apply to specific industries in which it is understood that the local economy has a potential competitive advantage.

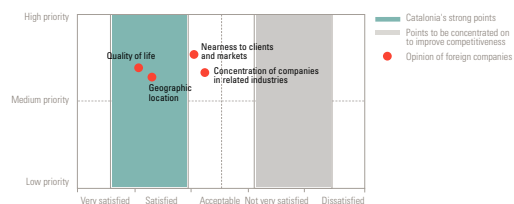
Catalonia's strategic location makes it the ideal platform to enter continental European markets, as well as markets in Latin America, North Africa and the Middle East.

Barcelona offers a world-renowned brand name and a privileged location that provides excellent accessibility to the entire Mediterranean. It is also a cosmopolitan city with a highly diverse cultural mix.

Catalonia's geographic and strategic location is considered good or very good by 59% of companies. Likewise, 41% have a satisfactory or very satisfactory opinion of the nearness of po-

tential markets, clients and suppliers when it comes to locating their businesses in the Barcelona area and Catalonia.

GRAPH 22. CONTEXT AND MARKETS IN CATALUNYA AND FDI IN EMERGING INDUSTRIES



⁵⁶ OCDE, Checklist for Foreign Investment Incentive Policies.

One of the most attractive things about the Barcelona area and Catalonia continues to be the high quality of life, which represents a very big advantage over competing locations when it comes to attracting business. Catalonia offers entrepreneurs a highly competitive price-quality of life ratio during the launch phase of their companies. **One of the challenges currently faced is generating the optimum conditions so these business initiatives enjoy competitive advantages during the entire life cycle of the project.**

One of the main conclusions revealed by the working groups with regard to the **needs of companies generating FDI in emerging industries** is that the priority requirements for starting up and consolidating their business should include:

- Institutions that are receptive and eager to collaborate during the entire business process: a **pro-business administration**
- Expert advice on tax, legal and financial matters: **professional services**
- A **network of related companies** and service suppliers
- A physical space for setting up with suitable conditions: **infrastructure**
- **Talent** in the form of skilled human capital (see Section 5.4)
- Support to attract **initial capital through venture capital firms** with knowledge of the industry (see Section 5.5)
- Other differentiating factors: **the quality of life in Barcelona and Catalonia**

A pro-business administration as a catalyst of economic activity

Attracting new FDI to Catalonia involves implementing strategies that reflect Catalonia's eagerness to welcome business initiatives of all kinds and its openness to high-risk industries.

For international entrepreneurs in the process of setting up in the Barcelona area and Catalonia, it is essential to be able to count on specific, effective support right from the earliest phases of setup and launch.

Of note are specific **services** such as the **Business Location Service** and the **Investment Incentives Service**, which the Catalan government makes available to local companies and companies with foreign capital through Invest in Catalonia.

Moreover, international entrepreneurs consider it very useful to have a multilingual manual with the main steps to be followed, along with the existence of advisors on administrative procedures, work and residency permits, etc.

The Catalan government's policy is to support business activity and strategic change by promoting the quality of employment and the competitiveness of the economy, while also strengthening areas such as research and development, innovation, technology transfer and the internationalization of companies.

Moreover, **Barcelona City Council's Area of International Economic Promotion** and **Invest in Catalonia** offer technical assistance adapted to the needs of companies with projects for investment, reinvestment and expansion in all project phases, including optimization of the initial investment plan, starting up activity and follow-up. Barcelona Activa's Do It in Barcelona programme is also designed to attract and retain international entrepreneurial projects.

Finally, of special note are projects in which technology plays a key role and which call for the involvement of specialized agents with knowledge of the specific field who are familiar with the most technical aspects of the project.

Professional services

Another basic part of starting up an activity and regular company operations is related to the quality of the professional services available in the region.

One of the main priorities of companies in emerging industries and international entrepreneurs in particular when setting up in Catalonia is the quality and availability of professional services, especially legal and business consulting services. It is also important for them to have access to sufficient services for managing intellectual property with experts in the field and through consultation with professionals.

A network of related companies and service providers

Another priority for foreign investors when setting up a business in an emerging industry is the existence of the specific knowledge required to carry out the corresponding activity. In order to attract competence centres in the region, it is necessary to be able to demonstrate to company headquarters that the region has the potential and the

know-how to contribute added value to the company's activity. It is therefore essential to be able to demonstrate that there is a community of related companies in the region. In this regard, 55% of the companies in emerging industries believe there is a satisfactory or acceptable level of concentration of related companies in the industries in which they work.

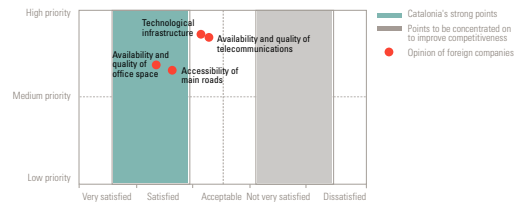
Moreover, small companies quickly become organized and adapt to the needs of the new companies setting up around them. Synergies and complementary activities are set up between the local business community and companies that have recently set up in the region

Infrastructure

On average, all business executives believe that infrastructure in the region is satisfactory. Regarding the availability and quality of office space and business centres, 51% of companies consider it to be satisfactory or very satisfactory. Moreover, companies consider access to the road network and mobility in general to be good.

Managers of companies in emerging industries and new international entrepreneurs consider the airport connections in Barcelona to be of special importance and they highly rate the action taken to increase the connections to an increasing number of world destinations.

GRAPH 23. INFRASTRUCTURE IN CATALUNYA AND FDI IN EMERGING INDUSTRIES



Telecommunications and data infrastructure in Catalonia are at an advanced level with high service coverage and reliability. With an overall investment in telecommunications infrastructure of nearly 6% of Spanish GDP and supplier pricing policies that are moving progressively towards the European average, the Barcelona area and Catalonia has one of the best services in this field, which is of vital importance for foreign investment. In fact, telecommunications and data infrastructure is one of the factors rated the highest by businesspeople in emerging industries: 87% consider it to be good or very good.

Quality of life in Barcelona and Catalonia

In recent decades, the Barcelona area and Catalonia have been considered one of the regions with the best quality of life in the world. Many different specialized publications have highlighted the city's unique way of life, the quality of the gastronomy, the excellent cultural and artistic attractions, the cosmopolitan atmosphere, the cutting-edge design and the way the people of the city live their day-to-day lives.

Year after year, Barcelona consolidates its position as the best European city in terms of quality of life. According to a study by Cushman & Wakefield²⁶, Barcelona has maintained this position since 1996, in front of cities such as Paris, London and Dublin.

80% of companies in emerging industries consider the quality of life enjoyed in the Barcelona area and Catalonia to be satisfactory or very satisfactory.

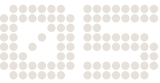
The quality of life in Barcelona, and by extension, its area of influence, is one of the factors that foreign entrepreneurs in emerging industries bear in mind the most when considering the region as a solid base to set up their activities. They understand that Barcelona's advantages in terms of quality of life are key to attracting dynamic professionals who will start up interesting projects with high added value or will become staff members who work for these business initiatives.

In terms of attracting FDI in emerging industries, for international entrepreneurs the quality of life in Barcelona and Catalonia has become a strong point for attracting talent to the area.

Finally, 65% of managers of companies in emerging industries and entrepreneurs consider the cultural, sports and leisure activities in Catalonia and the Barcelona area in particular to be good or very good.



²⁶ European Cities Monitor, Cushman & Wakefield.



5.4 Human capital

Businesspeople are aware of the strong effort made in Catalonia and the Barcelona area to attract R&D and excellence centres and believe that **Barcelona should also promote itself as a hub for entry into continental Europe with the aim of encouraging companies to set up their corresponding divisions of emerging industries.**

In this context, **the talent linked to clusters and emerging economic activities is a valuable resource that is much sought after in advanced economies.**

There has been a progressive concentration in the Barcelona area of expert candidates in very specialized industries, which is a key factor for contributing to the steady growth and consolidation of companies in emerging industries.

The high concentration of educational institutions in Catalonia allows the region to offer a wide and solid range of studies that respond to the standards of the most advanced economies. Catalonia is therefore a leading destination in terms of the number of universities, training programmes and students. Moreover, Barcelona has become one of the main destinations in Europe for a wide range of studies. In the 2007-2008 academic

year, a total of 6,561 students were enrolled in Catalan universities, and 4,368 Catalan students did part of their studies outside Catalonia²².

Furthermore, the recognition of business schools such as ESADE and IESE by different international publications and rankings has made Barcelona a strong candidate to receive foreign executives interested in improving their knowledge of management.

There is currently consensus about the availability of qualified labour: entrepreneurs consider the level of engineers and other technical profiles in general to be very high. **59% of companies in emerging industries and international entrepreneurs consider the technical and university training of the human capital available in Catalonia to be good or very good.** The training at universities and business schools is also ranked high.

With regard to the connections between local and foreign universities, and between universities and the business community, the majority of companies in emerging industries and international entrepreneurs consider them to be acceptable.

In this regard, **companies consider seeking out synergies between the business and academic communities to be important so companies can have access to the best trained and most specialized professionals.** With this aim in mind, it is important for students to continue acquiring the skills needed by the business community as a way of guaranteeing the supply of human capital for companies generating FDI in emerging industries. In this context, **international entrepreneurs advocate** increased connections between the academic community and the needs of companies, and believe that **creating specific entrepreneurial programmes at business schools could be of interest** to attract greater flows of foreign investment and entrepreneurial talent, and increase the local population's interest in entrepreneurship.

The area in which companies feel there is the greatest potential for improvement is in the knowledge of foreign languages, especially English: 75% of managers expressed this opinion. It is important to highlight the fact that **companies in emerging industries consider the knowledge of languages to be much more of a priority than managers in consolidated industries.** This explains why the presence of English in the New Economy and in the context of global alliances is so important.

Finally, the managers of companies in emerging industries and entrepreneurs consider the government's support of policies aimed at improving the most common procedures for foreigners working at companies set up in Catalonia to be very important.

5.5 Access to financing: venture capital and public aid

With regard to the different investment models associated with FDI in emerging industries, the most common is a partnership between a local investor and one or more foreign investors who, in turn, are able to attract new foreign investment.

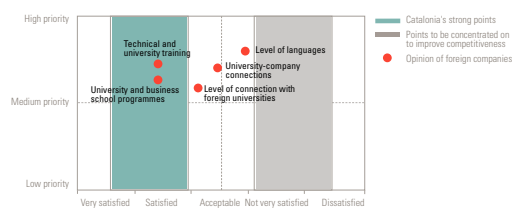
One of the basic needs in emerging industries and international entrepreneurship is having access to different alternatives when it comes to venture capital, and this is true in early stages and when these companies try to reach a certain level of consolidation. To make this possible, at least two things are necessary:

- The existence of **industry-specific venture capital**
- A commitment from the government, local development agencies and other actors in the world of finance

For foreign investors, it is very important to have access to specialized local **venture capital**. When launching a company in the emerging industries, it is known to be difficult to find initial financing, given the perception that it is a high-risk investment. It is especially important for start-ups to attract financing quickly.

Business angels are known for dedicating capital from traditional industries to more mature and consolidated activities. This is because investors with a much more conventional business and industrial background lack knowledge about the innovative and highly technological activities of companies in emerging industries.

GRAPH 24. HUMAN CAPITAL IN CATALUNYA AND FDI IN EMERGING INDUSTRIES



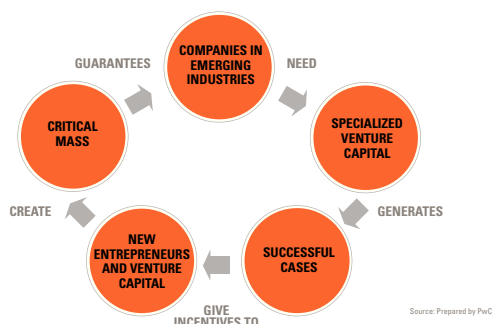
22 Idescat

However, it is worth pointing out that in Barcelona, the activity of the venture capital community and family offices is currently on the rise. The experts in this field believe that when Barcelona has successful companies built on venture capital that become widely known throughout the world, financing for these kinds of projects could surge.

One of the main conclusions of the workshop organized within the framework of the study was that the way to create favourable dynamics for expansion in emerging industries in Catalonia and, by extension, in companies with foreign

capital, is to have a suitable financial environment for these investments to favour the creation of a sufficient number of companies in emerging industries that, in turn, promote the emergence of specialized venture capital in the industry. This, along with the successful cases mentioned above, could create a virtuous circle and the desired positive dynamics.

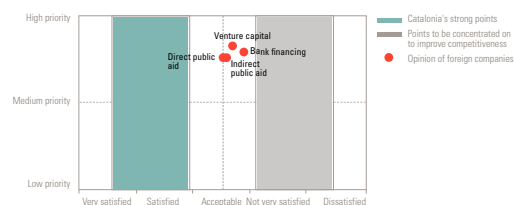
FIGURE 8. THE VIRTUOUS CIRCLE OF VENTURE CAPITAL IN RELATION TO EMERGING INDUSTRIES AND FDI



Based on this premise, 50% of the foreign businesspeople represented in the discussion groups said that one of the areas in which Catalonia can increase its competitiveness is in access to financing in the form of venture capital, as well as access to financing through

standard institutions (banks and savings banks), though this latter option is considered less of a priority for international entrepreneurs.

GRAPH 25. FINANCE FOR FDI IN EMERGING INDUSTRIES IN CATALUNYA



Regarding the public administration's role, businesspeople in emerging industries feel that increased efforts should be made to make requirements more flexible and speed up procedures for granting different lines of financing. They also feel that support strategies should be developed that target the needs of companies and that are highly coordinated between the different public administrations.

Bearing in mind the volume of incentives and grants available and the initiatives currently being developed so aid reaches business projects, it is important to take action to communicate and disseminate information on the different financing options available, and thereby ensure companies take advantage of all the financing tools available.

BANK GUARANTEES, VENTURE CAPITAL, MICROCREDITS AND CO-INVESTMENT PROJECTS THROUGH IFEM

There are currently a number of different initiatives and programmes in Catalonia to facilitate access to financing for companies, including a newly created company connected to the Catalan Finance Institute (ICF), which provides small and medium-sized Catalan companies (SMEs) with different tools to finance innovative projects involving considerable risk. Financial Tools for Innovative Companies (IFEM) is a company created by the Catalan government with a €50-million budget to implement different lines of action until 2013.

IFEM will carry out its activity in four areas: promoting venture capital funds, granting bank guarantees, granting microcredits and co-investing with networks of private investors. The company is designed primarily to focus on SMEs because this business group often has a difficult time acquiring outside financing, especially for innovative projects involving considerable risk.

This initiative has received the support of the European Union. Part of the resources the Catalan government will channel into the ICF will be European Regional Development Funds (ERDF) linked to the Joint European Resources for Micro to Medium Enterprises Programme (JEREMIE).



5.6 Other contextual factors

This section provides a brief summary of the **local contextual factors** that affect investment by foreign businesspeople in emerging industries and international entrepreneurship. In general, the managers of foreign companies have a highly satisfactory opinion of the different contextual factors considered.

Table 3 provides a summary of the level of priority given by the executives and managers interviewed to the 8 contextual factors as a whole,

and their level of satisfaction with the different variables included under each factor.

Foreign companies in emerging industries consider the following points to be the most relevant for the development of their business in Catalonia: access to financing, the legal and tax framework and infrastructure.

TABLE 3. THE DIFFERENT COMPANIES RESPONSIBLE FOR FDI IN EMERGING INDUSTRIES IN CATALUNYA IN TERMS OF DIFFERENT CONTEXTUAL FACTORS: PRIORITIES AND LEVEL OF SATISFACTION

CONTEXTUAL FACTOR	VERY SATISFACTORY	SATISFACTORY	IMPROVABLE
HIGH PRIORITY		<ul style="list-style-type: none"> - Direct public aid - Indirect public aid 	<ul style="list-style-type: none"> - Bank financing - Venture capital
		<ul style="list-style-type: none"> - Legislative framework - Work and residency permits 	<ul style="list-style-type: none"> - Tax framework
		<ul style="list-style-type: none"> - Availability and quality of office space 	<ul style="list-style-type: none"> - Accessibility to main roads - Availability and quality of telecommunications - Technological infrastructure
MEDIUM PRIORITY		<ul style="list-style-type: none"> - Quality of life - Geographic location 	<ul style="list-style-type: none"> - Nearness to clients and markets - Concentration of companies
		<ul style="list-style-type: none"> - Technical and university training 	<ul style="list-style-type: none"> - University-company connections - University and business school programmes - Level of connections with foreign universities
		<ul style="list-style-type: none"> - Employee absenteeism - Level of integration 	<ul style="list-style-type: none"> - Cultural and business climate - Organization of work - Productivity/efficiency of labour - Instruction in Catalan
		<ul style="list-style-type: none"> - Cost of qualified labour - Production costs 	<ul style="list-style-type: none"> - Cost of unqualified labour
		<ul style="list-style-type: none"> - Cultural, sports and leisure activities - Public transport 	<ul style="list-style-type: none"> - Shop opening hours

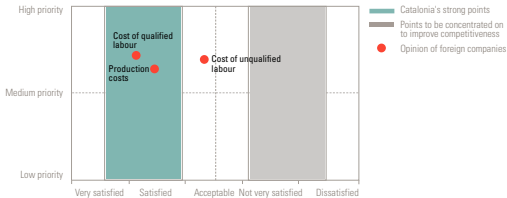
Source: Individual questionnaires taken by companies and analysed by PwC.

Of note is that **41% of the companies in emerging industries consider the costs associated with qualified labour to be very satisfactory**, and that 28% consider them to be good. These per-

centages go down to 4% and 17%, respectively, in reference to the costs of unqualified labour. Finally, general production costs are considered satisfactory or very satisfactory by 60% of companies.



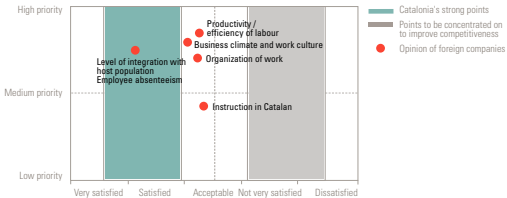
GRAPH 26. THE COST OF INVESTMENT IN CATALUNYA AND FDI IN EMERGING INDUSTRIES



The specifics on how work is organized in Catalonia in terms of schedules, work culture and business climate, productivity and employee absenteeism are of key interest to managers of companies in emerging industries. Of note is the

fact that 59% of businesspeople are satisfied or very satisfied with the level of employee absenteeism at their companies and 55% consider the productivity and efficiency of labour to be good or very good.

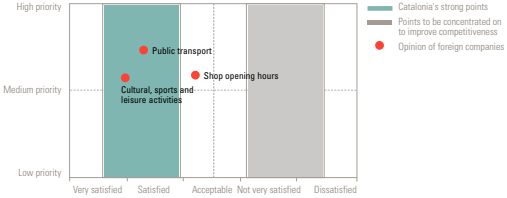
GRAPH 27. WORK CULTURE AND BUSINESS CLIMATE IN CATALUNYA AND FDI IN EMERGING INDUSTRIES



Above and beyond what the Barcelona area and Catalonia offer in terms of leisure and culture activities, 52% of the companies appreciate the service and quality of the public transport system and consider it to be good or very good. Moreover, in relation to the flexibility of shop open-

ing hours, 40% consider it to be acceptable, 25% feel it is good or very good, and 35% believe it can be improved.

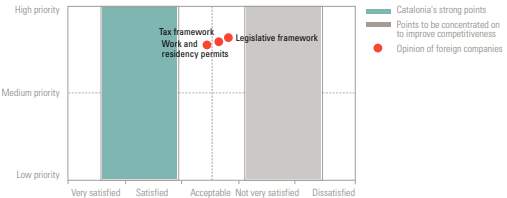
GRAPH 28. SERVICES AVAILABLE IN CATALUNYA AND FDI IN EMERGING INDUSTRIES



Finally, 40% of companies consider the tax framework in Catalonia to be acceptable or good, and 1 out of 3 companies have the same opinion

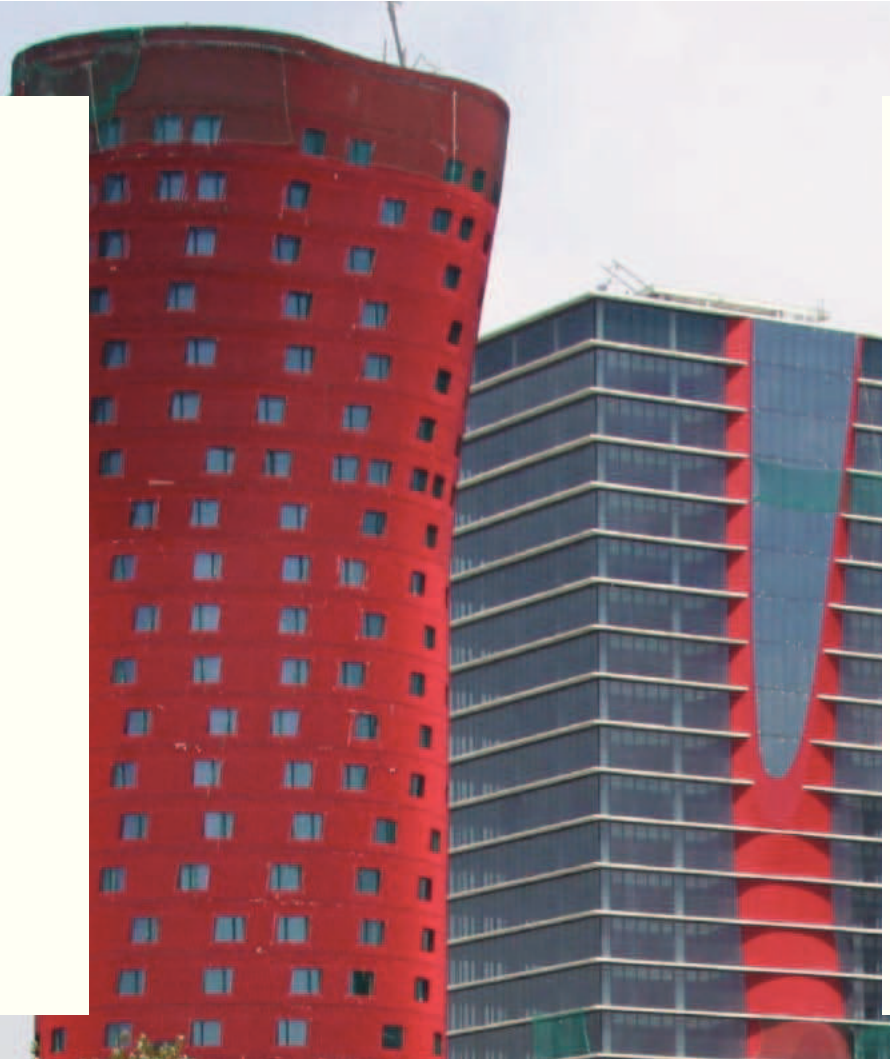
about the regulatory framework in which they carry out their activities.

GRAPH 29. THE LEGAL AND TAX FRAMEWORK IN CATALUNYA AND FDI IN EMERGING INDUSTRIES





GEOGRAPHIC ANALYSIS OF FDI IN CATALONIA

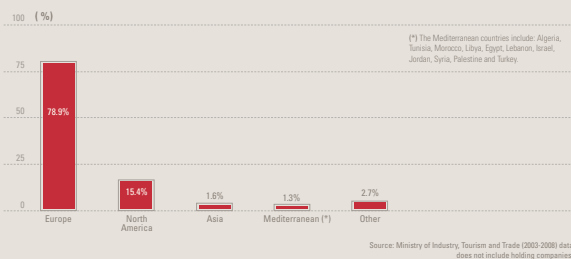




The methodology used for the study and the fieldwork made it possible to break down the trends and specific features in different geographic regions into segments in terms of the investments made, the objective needs of these companies and the perspectives for the future.

Specific geographic workshops were held for the United States and Canada, and for the Asian companies established in Catalonia. The companies from European countries were present in all of the other industry workshops, which provided sufficient information from companies to consider them an independent segment in this section. Finally, several interviews were held in relation to Mediterranean countries that confirmed that they are sufficiently different to be treated as a separate group in the analysis by geographic region.

GRAPH 30. VOLUME OF FDI IN CATALUNYA BY REGION OF ORIGIN



Besides the different workshops and interviews held with the companies representing each region, the interviews with different facilitators

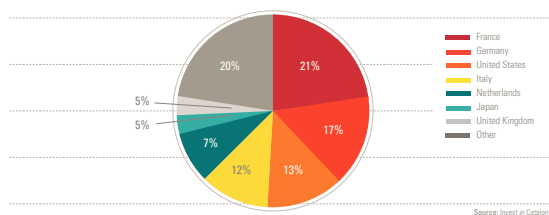
provided relevant complementary conclusions for this section.

6.1 Europe and the United States

Western European countries together with North America (the United States and Canada) have been the geographic areas producing the main FDI flows in traditional industries received by the Barcelona area and Catalonia in recent decades.

The companies from these regions often belong to mature, consolidated industries, such as chemicals, the automotive industry, pharmaceuticals, machinery manufacture and banking, among others.

GRAPH 31. MAIN INVESTOR COUNTRIES IN CATALUNYA BY NUMBER OF COMPANIES (2008)



France, Germany and the United States account for the origin country of more than half of the foreign companies established in Catalonia. Moreover, Catalonia is the operations base of 60% of the American companies operating in Spain, 62% of the French companies, 61% of the German companies, 47% of the British companies, and 54% of the Italian and Belgian companies.

The decision of European and American companies to set up in the Barcelona area and Catalonia: factors that make a difference

Western European and American companies have a very positive opinion of the improvements in passenger air transport, given the increase in direct trans-Atlantic flights and regular flights from

the main investor countries. Along with new infrastructure, these improvements have had considerable impact.

In the case of companies where logistics plays a key role (and for companies in mature industries, this is generally the case), the following conditions in the region are considered crucial, among others: the location, warehousing costs, the capacity and nearness of the port and good infrastructure.

Likewise, the French Chamber of Commerce considers Catalonia to have great potential as a logistics centre because it guarantees access to the markets in Spain, North Africa and Southern Europe, and because it has two high-capacity ports, a developed road network and good logistics operators.



In the case of large multinationals, quality of life is considered to be important to attract human capital and to help executives decide about moving abroad, but not when making decisions about the location of affiliate companies, which is more closely linked to the company's internationalization strategy.

Though most foreign companies established in the Barcelona area and Catalonia form part of mature industries, American companies also focus on

investments in the fields of nanotechnology, biotechnology, ICTs and, more recently, renewable energies. In the case of German companies, there has been a considerable increase in the number of retail companies, whereas the number of industrial companies has reached a plateau. Of the approximately one thousand German companies in Catalonia, most form part of the services industry and distribution sector. Because of the proximity of France, almost all the French companies operate in production industries.

HUMAN CAPITAL AND EUROPEAN AND AMERICAN COMPANIES

The managers of European and American companies believe that Barcelona has a very good supply of business schools and that the connections between academia and the business community are acceptable. Companies generally find good support at these business schools and often collaborate with them.

There is a good level of satisfaction among American businesspeople regarding the university and business-school programmes available, given that 50% of them consider these programmes to be satisfactory or very satisfactory. However, 60% feel there is room for improvement in terms of the connections between academia and the business community.

More than 50% of European companies find the technical and university training of the human capital to be satisfactory or very satisfactory.

Challenges for the future to maintain and attract FDI from Europe and the United States and associated strategies

Given the current world macroeconomic situation, European companies and actors such as the American Chamber of Commerce are convinced that, now, more than ever, governments have to make a priority of maintaining the FDI from these companies. Another conclusion garnered from the discussion groups is that, although there are very interesting initiatives in relation to innovative industries that are strategic for the Catalan economy, support should continue to be given to communicating and marketing these initiatives to ensure information reaches all potential targets.

With respect to the incentives used to retain and increase the amount of FDI attracted by Catalonia, European and American businesspeople support the following:

- Defining highly competitive programmes for public aid that make it possible to select the projects with the most added value for Catalonia, while ensuring the maximum level of communication between foreign companies and the public administration at all times.
- A continued drive to inform Catalan society about the positive aspects of the values of entrepreneurship, international exchange at all levels and the importance of speaking languages in a globalized, interconnected world.
- To continue increasing the amount of industrial land in the Barcelona area and the relevant public services required.
- Exploring ways to improve access to housing for foreign employees.

6.2 Asia

In recent years, the emergence of certain markets as new investing countries at the world level has been significant. Southeast Asian countries, China and petroleum-exporting countries have taken advantage of the surplus in their economies to change from net receivers of capital to net issuers.

Several Chinese and Indian companies have completed major purchase operations. They are multinationals interested in expanding into Europe through acquisitions, because it is the fastest way to gain access to distribution networks. Mergers are another solution, given the economies of scale they generate (TATA Motors is an example). On the other hand, companies from Japan and South Korea, which have been importing steadily to Catalonia for a longer period of time, prefer to set up in Europe with their own brands.

For example, Catalonia is the base of operations of 70% of the Japanese firms operating in Spain, which shows that, besides attracting new FDI from untraditional regions of Asia, there is a very consolidated, historical presence of foreign investment from Japan in Catalonia.

The decision of Asian companies to set up in the Barcelona area and Catalonia: factors that make a difference

In the case of Catalonia, most Asian companies that come to set up affiliates are medium-sized firms, with the exception of companies from Japan. Though most Japanese companies reinvest in mature, consolidated industries, other Japanese companies have recently been established in Catalonia that work in renewable energies through the divisions of established companies.

Among the factors that help companies decide is the projection of potential markets offered by the Barcelona area. **Catalonia's geographic location is considered one of the main attrac-**

tions for setting up company headquarters. Once they are set up in Catalonia, they can expand their business to Spain and Portugal, Western Europe and, as is happening more and more often, North Africa and South America.

The existence of clusters and industries with companies and production centres, as well as a consolidated auxiliary industry, as in the case of the automotive and textile industries, was a very important factor when locations for FDI were relatively restricted. However, this factor has recently become less important, though it is still relatively significant.

With regard to the costs of setting up, Catalonia traditionally had low operating costs, so its competitiveness was good. This factor has gradually become less important and other factors have gained status, such as **the existence of a competitive business community and the presence of production companies, which make it possible to guarantee that the foreign companies setting up in Catalonia will have access to a complete network for the support and supplies they need.**

The managers of Japanese companies see Barcelona as a strategic geographic location with a very high standard in terms of quality of life, and as a dynamic, attractive city that is quite safe. Though these factors do not initially represent a significant difference compared to the perception of companies from other regions, they take on special significance when it comes to the business climate and the way people do business in the Barcelona area, because Japanese firms feel it is very similar to their own way of doing business. Moreover, the ease of identifying with other cultures and the comprehension of hierarchies and discipline at work are factors the managers of Japanese firms highlight that make Catalan culture stand out from other regions. Other strong points include the fact that the rate of employee absenteeism in the Barcelona area is relatively low, punctuality is respected and customer service is quite good.



For these reasons, despite having costs in certain cases that are higher than some East European regions, Catalonia has attracted the interest of Asian companies eager to set up in Southern Europe.

In terms of the kinds of Asian companies operating in the Barcelona area, one of the most important factors about the business model is that there is a strong emphasis on the business group and that affiliate companies often share the same policies. Moreover, Asian multinationals' concept of globalization is different from the Western concept. Asian firms tend to only internationalize production (as in the case of Sony, Toyota and

Nissan), while they maintain the philosophy and working method of their own countries.

Another factor of interest in relation to how some Asian companies operate involves the model for the distribution of work, in that the amount of involvement of the different managerial levels is generally very high in all areas of activity, even with regard to production processes in industries such as manufacturing, which is not the case in most Western companies.

HUMAN CAPITAL AND ASIAN COMPANIES

The availability of qualified labour, especially engineers, is seen as very positive, as is the presence of leading business schools.

There is also unanimity that the level of technical and university training of employees in Catalonia is satisfactory or very satisfactory, along with the availability of university and business-school programmes. The managers of Asian companies who responded said they consider the level of excellence in these two areas to be high or very high.

It is important to bear in mind that, for Asian cultures, work is not merely a source of income, but a social activity where education and values are promoted and given special importance. Unlike Western societies, in Asian cultures there is not such a sharp division between personal and professional life.

The consensus among Japanese managers is that once companies have set up in Catalonia, they can offer their employees secure, stable jobs. However, these managers are surprised by the considerable turnover among technical personnel, especially engineers, who often leave to seek higher salaries from other companies.

Challenges for the future to maintain and attract FDI from Asia and associated strategies

One of the main challenges faced by the Catalan government when it comes to attracting new FDI from Asia is being able to compete with the regions. Asian investments tend to gravitate towards. Catalonia's chief competitors as priority destinations for companies from Asian countries are Germany and the United Kingdom. Moreover, the leading destinations for companies that base

their competitiveness on low production costs are East European countries.

The Asian companies established in Catalonia face the future by focusing on offering original products with high added value and expanding sales in other markets. Along the same lines, as part of the most recent trends, it is necessary to distinguish between the experiences of Japanese companies and those of companies from other Asian countries. In the case of Japanese companies, investment is

channelled primarily into companies in mature industries, such as consumer electronics and the automotive industry, which show moderate growth. However, the economies of Southeast Asia on the one hand, and China and India on the other, continue to grow and their prospects regarding FDI in Catalonia continue to be optimistic.

In terms of the strategies, actions and tools used by the relevant public administrations in the Barcelona area to attract and retain FDI from Asian countries, and the opinion the companies from these countries have of these strategies, actions and tools, it is important to point out the effort made by the Catalan public administrations in terms of support for Catalan companies interested in setting up in Asia, such as the work done by the Catalan office in Shanghai. For Asian companies in the Barcelona area, the economic promotion offices created to provide advice to the different candidates interested in setting up in Catalonia is seen as a strong point.

Asian companies are very interested in having information about the process of starting up a company in Catalonia with details about investment conditions in terms of taxation, work permits, the availability of office space and the price of different production factors. Asian companies also consider obtaining employment visas to be a high priority, given that fact that many of their employees will be transferred from their home country.

With this in mind, some of the ways considered important to continue promoting the position of

Catalonia as the ideal place for Asian companies to set up are as follows:

- **Clearly communicating the region's competitive advantage** through long-term campaigns focusing on the promotion of added value in Catalonia compared to competing locations. In this regard, before Asian entrepreneurs start operating in Europe, they consider the region to be a homogeneous unit with no major differences between countries. There is thus a chance to promote the Barcelona area as a location with unique features: good higher education and a high concentration of companies working in related and complementary activities to foreign companies interested in setting up in the region.

- **Informing the Asian university population about the Barcelona area and Catalonia** is also considered a positive initiative to help strengthen business relations between Catalonia and Asia. Most young Asians who decide to do their university studies abroad head for the United States, while many Indians go to the United Kingdom. **Making Asians aware of the high-quality training and professional opportunities available** in the Barcelona area could help channel some Asian students towards Catalonia and consolidate a critical mass of well-educated Asians. This highly skilled population group could then leverage new investments from their respective countries of origin.





6.3

Mediterranean countries

Foreign investment in Mediterranean countries has traditionally been in the form of outflows from Catalonia. One of the factors that places the Barcelona area and Catalonia in a **good competitive position** is derived from the fact that many countries on the Mediterranean **perceive Catalonia and Spain in general as a platform for entry into Latin America**, a region with which they generally do not have major economic or cultural relations.

Mediterranean countries, especially those in the **Middle East**, have shown growing interest in companies in the field of **renewable energies**, an industry that has been gaining considerable ground in Spain, as discussed above.

For these countries, Barcelona's image as a cosmopolitan Mediterranean city is one of the basic attractions when considering future investments.

Companies from Mediterranean countries place special emphasis on obtaining visas and work permits, especially for people entering Catalonia

from the Middle East. The focus placed on this issue stems from the fact that, for these companies, the speed of these procedures take can affect their investment decisions.

Another relevant factor is that **the headquarters for the Secretariat of Union for the Mediterranean (UfM) has been located in Barcelona** and this is expected to generate additional commercial activity in the area. Although it is not anticipated that this fact will result in a massive flow of investment, the investment that does take place is expected to be strategic. From the perspective of the Barcelona area, the aim is to take advantage of the situation to promote the establishment of representation offices, sales agents, distributors, etc. Moreover, the fact that Turkey has opened a consulate in Barcelona, that Egypt plans to do so in the future, and that Morocco already has one in the city are positive signs that may be a result of the presence of the UfM.

THE CASE OF BASF SONATRACH

On 20 January 2000 the joint venture BASF SONATRACH PropanChem S.A. was created with headquarters in Tarragona. BASF has a 51% shareholding and the Algerian petroleum and oil public company SONATRACH has the remaining 49%.

The joint venture will build and operate a propane dehydrogenation unit with the aim of producing propene.

CHOOSING THE LOCATION

The strength of the Tarragona petrochemical area was one of the reasons that attracted the joint investment of BASF and SONATRACH to Catalonia.

The German company BASF has production centres in many European countries. It began operating in Catalonia in 1968 when it set up small production plants. The company's main aim was to supply the Spanish market and a small segment of the Italian market.

Until 2000, BASF's activity was focused on manufacturing and marketing consumer plastics. Within this context, BASF planned a major investment aimed at building a plant in Tarragona to produce polypropylene, a plastic with many different uses. Because it did not have the raw material (propene) it needed to make polypropylene, BASF had to build another plant to produce propene.

For the construction of this second plant, BASF joined forces with SONATRACH, which was seeking a partner with its own technology that would allow the company to position its activity further along the production chain. At the same time, BASF needed a strategic partner with its own sources of energy and access to oil wells in the south.

INVESTMENT OBJECTIVES AND RESULTS

The decision-making centre of BASF SONATRACH is in Catalonia and its Executive Committee is made up of four professionals from Tarragona.

Other companies in the chemicals industry are recreating the same joint-venture model adopted by BASF SONATRACH some years ago that has proven successful: an alliance between a multinational and a local partner. Other propene plants with similar capacities are currently being built in the Middle East.

THE PRESENCE OF THE SECRETARIAT OF THE UNION FOR THE MEDITERRANEAN (UFM) AS AN OPPORTUNITY

The managers of BASF SONATRACH feel that establishing the headquarters of the Secretariat of the UfM is a very positive opportunity when it comes to promoting contacts between companies on either shore of the Mediterranean. The countries on the southern shore are very interested in doing business and embarking on long-term collaboration with European countries. It would be very helpful if there were an organization that helped catalyse these connections.

The countries in the Middle East and the Arabian Peninsula have considerable investment potential, given the reserves of natural resources in their subsoil. These countries confirm that they are looking for European partners to make progress towards internal stability and gradually depend less on the sale of petroleum and natural gas. Investment is ongoing and outgoing in this region, because these countries make investments abroad, but also make an effort to attract capital flows. Turkey is also responsible for issuing and receiving investment flows.

INVESTMENT FRAMEWORK IN CATALUNYA

In conjunction with the consolidation of the UfM, BASF SONATRACH considers it important to promote good connections with the southern shore of the Mediterranean, because an increase in the number of weekly flights to the main cities in North Africa will help create good relations between the two regions.



6.4

Geographic comparison: critical points, challenges and opportunities

The aim of this final section is to compare the most relevant factors for the countries in the major geographic areas that generate the FDI received in Catalonia with regard to the key contextual variables these countries consider to be the most important when deciding on setting up or staying in Catalonia. The aim is

to identify the opinions shared by the foreign companies established in Catalonia, regardless of their geographic origin, and to identify the main differences that arise precisely as a result of their geographic origin.

TABLE 4. GEOGRAPHIC LOCATION AND CONTEXTUAL FACTORS: EUROPE, THE UNITED STATES AND ASIA

CONTEXTUAL FACTOR	EUROPE	UNITED STATES	ASIA
Context & Market	· Quality of life	· Strategic location · Quality of life	· Strategic location · Business community and production context
Costs	· General production costs · Cost of unqualified labour	· Cost of qualified labour	· Cost of qualified labour · Cost of unqualified labour
Human Capital	· Technical training · Business schools available · University programmes · University-company connections	· Technical training · Business schools available · University programmes · University-company connections	· Technical training · Business schools available
Culture & Context	· Productivity of professionals · Business climate and work culture	· Organization of work (timetable flexibility)	· Business climate and work culture · Employee absenteeism
Infrastructure	· Office space and business centres	· Opinions of supply of better air connections · Office space and business centres	· Office space and business centres · Technological infrastructure
Services Available	· Cultural and sports activities · Supply and quality of public transport	· Leisure and cultural activities	· Leisure and cultural activities · Supply and quality of public transport

CONTEXTUAL FACTOR	EUROPE	UNITED STATES	ASIA
Legal & Tax Framework	· Legal protection	· Obtaining visas and permits	· Obtaining visas and permits
Finance	· Incentives and aid	· Access to venture capital	· Access to direct public aid

■ Catalonia's strong points
■ Points to be worked on to improve competitiveness
BOLD indicates a higher priority level

Source: Individual questionnaires taken by companies and analysed by PwC

When making an overall analysis of enterprises geographic origin, it becomes clear that managers and businesspeople agree on certain points that represent the competitive advantage offered by the Barcelona area and Catalonia, as well as areas where an effort should be made to improve the region's strategic position.

• The different countries are unanimous about identifying the key factors that make Catalonia and the Barcelona area competitive: quality of life and strategic location as a gateway to new markets.

• Particularly for countries in Europe and Asia, the region is less competitive in terms of the costs of less qualified labour, given the focus of the Catalan economy on production industries with greater added value and increased emphasis on knowledge and technology.

• In terms of the factors on which the Barcelona area and Catalonia should focus to improve their position within the framework of attracting FDI, there is a general consensus among the managers of Asian, American and Mediterranean companies about the importance of expediting and optimizing procedures for obtaining visas for foreigners and work and residence permits.

• According to the managers of European and American companies, the current situation of connections between academia and the business community in Catalonia still shows room for improvement. Despite the work done in recent years

in this area, these managers feel that work should continue with the aim of optimizing synergies and areas for collaboration. In this regard, fields in which this connection is managed successfully (as occurs in general in the United States) could represent a model for learning and provide the area of Barcelona and Catalonia with examples of good practice. Moreover, the fact that there are top-level managers and entrepreneurs from the United States and other countries working in Catalonia, along with the presence of other institutions such as business schools and think tanks, should provide know-how to help optimize connections between companies and universities in Catalonia.

Finally, with regard to Mediterranean countries, companies from North Africa and especially the Middle East consider the strategic location of the Barcelona area and Catalonia to be a high priority as a gateway to markets in Europe and Latin America. Likewise, the quality of life in the region is another strong point for the managers of companies from Mediterranean countries. The areas that require improvement to increase competitiveness include the addition of more flights connecting Catalonia and the main cities in North Africa, and expediting procedures to obtain visas and other permits for foreign workers.



FDI PUBLIC POLICY RECOMMENDATIONS

PricewaterhouseCoopers appreciates the opportunity that Invest in Catalonia-ACC10 and the Economic Promotion Area of the Barcelona City Council have given us to develop the study "Foreign investment in the area of Barcelona and Catalonia".

The area of Barcelona and Catalonia has a differential competitive position to attract foreign investment and a high degree of openness of their economies to foreign countries.

In the current global macroeconomic environment, transnational investment aggregate flows have been in a downward trend since the peak reached in 2007 and 2008, a fact that has increased the competition to attract capital.

Therefore, for the area of Barcelona and Catalonia, the efforts to maintain foreign investments already established in the territory and to attract new opportunities take special relevance. To enable this objective, this study has served to identify the following lines of action:

FOREIGN INVESTMENT IN THE BARCELONA AREA AND CATALUNYA • FDI PUBLIC POLICY RECOMMENDATIONS

1. Maintaining traditional Foreign Direct Investment in mature sectors through:

- Support businesses that put effort on high-value activities based on knowledge from already established sub-sectors and that are investing in technology, logistics, etc...
- Make an effort to maintain current production of foreign companies as a means to locate R&D&i activities in Catalonia.
- Foster public-private collaboration in a broader range of areas: financing technology, infrastructure, transport, logistics, etc...

2. Capture and consolidate the emerging Foreign Direct Investment, from:

- Focus on a maximum of 2 or 3 key sectors in which the area of Barcelona and Catalonia have an internationally contrasted competitive advantage.
- Continue to work from the institutions to attract FDI linked to the new economy, particularly in sectors such as biotechnology and ICT, through:
 - Affecting the competitiveness factors of the environment, notably in: infrastructure, human capital training and a pro-business regulatory framework.
 - Providing the means to make a step further and ensure the achievement of the sufficient critical mass to grow the businesses of the new economy once implanted in Catalonia and especially thanks to the availability of talent and access to financing.
 - Encourage entrepreneurial activity and strengthen the university-business linkage.

3. To facilitate a smooth dialogue between Administrations and businesses through agents with extensive knowledge of the specific sectors and businesses through:

- Accompany the companies comprehensively during the processes of implementation and foreign investment since the establishment of the activity through access to financing, etc...
- Ensure a proper management of the demands of companies already located in Catalonia, especially in terms of maximum speed of response, provision of a single interlocutor or compilation of reliable information.

4. Combining a global view with the specificities of a geographic analysis of FDI. In this sense, we emphasize the study's conclusions, which call for:

- In the case of European and American capital companies: improve the dissemination of the existing offer of incentives, enhancing the value of entrepreneurship and, above all, the public-private partnership in emerging sectors.
- In the case of Asian firms: redouble communication efforts of the differential aspects that Catalonia offers and the dissemination of successful stories to induce an attraction effect.
- In general, clearly communicate the strengths that Catalonia has, such as: skilled human capital, legal certainty, optimal level of infrastructure and competitive know-how both in the traditional and emerging production sectors.

Pablo López
Director of Public Sector of Catalonia
PricewaterhouseCoopers

Elena Casas
Senior Manager of Public Sector
PricewaterhouseCoopers



APPENDICES

7.1 Study methodology

The Foreign Investment in the Barcelona Area and Catalonia study follows a double approach based on exhaustive fieldwork, aimed at obtaining qualitative information about foreign com-

panies in Catalonia, and the complementary analysis of other secondary databases.

The denominated generic form "Foreign Direct Investment" is technically known as FDI or Gross Foreign Investment" and includes the following elements:

- Investment flows in companies that are not publicly listed on the stock exchange
- Investment flows in listed companies where the foreign investor acquires at least 10 percent of the capital of the company (which conventionally is considered a lasting relationship regarding the management of the company)
- Establishment of new trading companies and their capital increase

Loans between parent companies and their subsidiaries, as well as real estate investments are not taken into account.

Foreign Direct Investment Greenfield (FDI Greenfield) is the most reliable indicator when considering the impact of foreign investment on the GDP of a country or recipient region. The reason is that mergers, acquisitions or a mere change in ownership title does not generate GDP alone. However, a new production activity does increase the GDP of the particular region that receives the investment.

Section 2.2 "Methodological Approach and Conceptual Framework of the Study" specifies the geographical scope of the study, as well as the latest and most relevant fieldwork changes in terms of researching and gathering information regarding previous issues. Therefore, methodology has been structured in three phases;

a) Identification and in-depth interviews of facilitating agents (foreign chambers of commerce, consulates, etc.)

b) Organization of discussion groups in the form of industry and geographic workshops

c) Secondary data analysis

a) Identification and in-depth interviews of facilitating agents

Facilitating agents are those institutions and key actors in Catalonia from a foreign investment point of view. Several in-depth interviews with those agents have been carried out in order to:

- Identify those sectors and companies that are most relevant and best represent FDI in Catalonia, considering their major challenges and future prospects

- Analyse case-studies about FDI trends in Catalonia

- Define and agree on the workshops' content, establishing a proper industry and geographical segmentation

The in-depth interviews were held with:

INSTITUTION	PERSON INTERVIEWED	POSITION	DATE/ TIME
01 American Chamber of Commerce	Glynis Andrews	Executive Director	18/3/2009, 11h
02 Casa Àsia	Amadeu Jensana	Business Circle Director	19/3/2009, 12.30h
03 Institut Europeu de la Mediterrània	Xavier Albarracín	Coordinator	20/3/2009, 10h
04 French Chamber of Commerce and Industry in Barcelona	Véronique Oberlé Philippe Saman	Business Service Chief Director	19/3/2009, 9h 31/3/2009, 16h.
05 German Chamber of Commerce in Spain	Peter Moser	Managing director	23/3/2009, 9.30h
06 Chamber of Commerce of Barcelona	Josep M. Cervera	Internationalization Area Director	23/3/2009, 13h
07 Consulate- General of Switzerland in Barcelona	Silvia Gluber	Deputy Director	24/3/2009, 10 h
08 Consulate- General of Japan in Barcelona	Yoshihiko Sato	Consul	3/4/2009, 10h

b) Organization of discussion groups in the form of industry and geographic workshops

According to the priorities, strategies and concept framework established by PwC, a total of **6 FDI workshops** were organized, divided in two main groups depending on whether they represented FDI in traditional or emerging industries and markets.

TRADITIONAL FDI			
WORKSHOP 1 <i>Point on the R&D&i value chain: future trends and challenges</i>		7/5/2009, 16 – 18h	
6 COMPANIES	Sony Yahoo!	General Electric SEAT	Bayer Novartis



TRADITIONAL FDI			
WORKSHOP 2 <i>Point on the logistics and distribution value chain: future trends and challenges</i>		11/5/2009, 16H – 18H	
6 COMPANIES	Akzo Nobel Henkel Ibérica	Media Market Leroy Merlin	Pierre Fabre Ibérica Scheider Electric España
WORKSHOP 3 <i>Specific features of FDI from the United States and Canada</i>		12/5/2009, 10H – 12H	
6 COMPANIES	Delphi Diesel Systems HP	Citigroup Leroy Merlin	Whirlpool ¹ Levi Strauss & Co ²
EMERGENT FDI			
WORKSHOP 4 <i>Specific features of FDI from Asian companies</i>		13/5/2009, 10H – 12H	
4 COMPANIES	Cosco Denso	Cox & Kings Shinning Air Conditioner	
WORKSHOP 5 <i>Specific features of FDI in emerging industries</i>		29/5/2009, 10H – 12H	
13 COMPANIES	CPM Nurun España Robert Bosch Sensing & Control Systems	NTT Europe Online Spain Siemens Visual Century Research Sitec Consulting	Yisios Fon You Sustainable Energy Senseit
WORKSHOP 6 <i>International entrepreneurs</i>		4/6/2009, 10H – 12H	
10 COMPANIES	Barcelona Deluxe Gigle Lingia Peace Republic Procept	The Bright Co Barcelona Minicar Tours Enormo Taxijet Kinamik Data Integrity	

As a case-study illustrating foreign investment originated in other Mediterranean countries, an executive from Basf-Sonatrach was interviewed as well.

Company questionnaire

The companies that participated in the workshops, along with the companies where personalized interviews were held, answered the **same questionnaire on the positioning** of the Barcelona area and Catalonia in terms of different factors and contextual variables. The data taken from these questionnaires were used as the basis for the quantitative analysis that supported the arguments of the entire study.

c) Secondary data analysis

Finally, in relation to the way secondary data were processed, comparable sources that follow the same guidelines of recording investment in Spain and abroad were used.

• OECD's Foreign Direct Investment database.

• The **Investment Register** of the Ministry of Industry, Tourism and Trade for figures on volumes of FDI.

• The **OCO Monitor database** for the number of FDI projects carried out in the Barcelona area and Catalonia.

• **UNCTAD**, through the World Investment Report, to obtain data on FDI flows worldwide and by country.

In 7.3 the detailed list of all sources used in the process-making of this study can be found.

ACC10 and the **Barcelona City Council** contributed with valuable materials and publications to complete the above mentioned sources, among which stand out:

- Why Catalonia. Ten reasons to invest in
- *Annual Report on the Industry in Catalonia*
- The energy sector in Barcelona and Catalonia

Finally, during the composition of this document, PricewaterhouseCoopers has used several own documents through which expertise has been conveyed:

- **Supercluster.** Ideas, perspectives, and trends shaping the global impact of the Massachusetts life science industry.
- **Cities of opportunity.** Business-readiness indicators for the 21st century.
- **Cities of the future.** Global competition, local leadership.
- **Innovating through the downturn.**

¹ Personal interview with Renato Senta, General Director, held 15th June 2009, 9h

² Personal interview with Eric Lejeune, General Director, held 12th July 2009, 11:30h



7.2

List of figures, tables and graphs

2. Introduction to the study and the economic Context

Figure 1. FDI Conceptual Framework

Box 1. Abbreviated Methodology of the Study

3. Current situation of FDI in Catalonia and the rest of the world

Graph 1. World FDI by Region (2008)

Graph 2. Distribution of FDI Attracted at the World Level (2003-2008)

Graph 3. Evolution of World FDI and FDI in Catalonia in the last ten years

Graph 4. Evolution of net FDI in Catalonia (2003-2008)

Table 1. Number of foreign companies operating in Catalonia

Graph 5. Distribution of FDI projects in the Barcelona area and Catalonia (2003-2008)

Graph 6. FDI in Catalonia by field of activity (2003-2008)

Graph 7. Industries attracting the most FDI in Catalonia (2003-2008)

Graph 8. Investment by holding companies and non-holding companies in Catalonia

4. Traditional FDI in Catalonia: concentrated at key points along the value chain

Figure 2. The value chain and traditional FDI

Figure 3. Key factors and actors in traditional FDI

Graph 9. Traditional distribution of GDP in Catalonia by industry

Graph 10. Evolution of employment in major economic sectors: Catalonia and Spain

Graph 11. Industrial investment in Catalonia

Graph 12. FDI in Catalonia in traditional sectors (2003-2008)

Graph 13. FDI in Catalonia by industry (2003-2008)

Figure 4. Strong points of R&D&i in Catalonia

Graph 14. Infrastructure in Catalonia and traditional FDI

Graph 15. Human capital in Catalonia and traditional FDI

Table 2. The opinions of different companies responsible for traditional FDI in Catalonia about contextual factors: priorities and level of satisfaction

Graph 16. Context and markets in Catalonia and traditional FDI

Graph 17. Investment costs in Catalonia and traditional FDI

Graph 18. Work culture and business climate in Catalonia and traditional FDI

Graph 19. Services available in Catalonia and traditional FDI

Graph 20. The legal and tax framework in Catalonia and traditional FDI

Graph 21. Financing traditional FDI in Catalonia

5. FDI in emerging industries in Catalonia: attracting talent and reaching critical mass

Figure 5. Key factors and actors in FDI in emerging industries

Figure 6. Local and global alliances in FDI in emerging Industries

Figure 7. Availability of technological infrastructure and space in Catalonia

Graph 22. Context and markets in Catalonia and FDI in emerging industries

Graph 23. Infrastructure in Catalonia and FDI in emerging industries

Graph 24. Human capital in Catalonia and FDI in emerging industries

Figure 8. The virtuous circle of venture capital in relation to emerging industries and FDI

Graph 25. Finance for FDI in emerging industries in Catalonia

Table 3. The different companies responsible for FDI in emerging industries in Catalonia in terms of different contextual factors: priorities and level of satisfaction

Graph 26. The cost of investment in Catalonia and FDI in emerging industries

Graph 27. Work culture and business climate in Catalonia and FDI in emerging industries

Graph 28. Services available in Catalonia and FDI in emerging industries

Graph 29. The legal and tax framework in Catalonia and FDI in emerging industries

Graph 30. Amount of FDI in Catalonia by region of origin

Graph 31. Main investor countries in Catalonia by number of companies (2008)

Table 4. Geographic location and contextual factors: Europe, the United States and Asia

7.3

Sources used

SOURCE	PUBLICATION / DATABASE	CONTENT	LINKS
AENA		Passenger and goods traffic statistics on	www.aena.es
Port Authority of Barcelona		Data on goods traffic and capacity	www.apb.es
Port Authority of Tarragona		Data on goods traffic and capacity	www.porttarragona.es
World Bank	<ul style="list-style-type: none"> Doing Business 2009. Measuring Business Regulations. Foreign Investment Promotion Centre Global Investment Promotion Benchmarking 2009: Summary 	Statistics on business regulations in 181 countries	www.worldbank.org
Biocat		Data on the biotech industry in Catalonia	www.biocat.cat
Chambers of Commerce and/or Commercial Offices	Database of companies in the countries of origin	Companies established in Catalonia, based on country of origin	
European Commission	Green Paper on Public-Private Partnerships in the European Union (COM (2004) 327).		
Cushman & Wakefield	Cushman & Wakefield: European Cities Monitor		www.cushwake.com
European Investment Monitor	European Investment Monitor 2008 Report		www.eyeim.com
fDi Intelligence	OCO Monitor	Number of FDI projects	www.ocomonitor.com
International Monetary Fund		Macroeconomic development forecasts	www.imf.org



SOURCE	PUBLICATION / DATABASE	CONTENT	LINKS
IBM Plant Location International			www.ibm.com/bcs/pli
Catalan Finance Institute (ICF)			www.icfinances.com
Catalan Statistics Institute (IDESCAT)		Basic statistics on Catalonia	www.idescat.cat
Institute for Energy Diversification and Saving (IDAE)	Directory of companies in renewable energies		www.idae.es
Spanish National Statistics Institute (INE)	Spain Regional Arrounting		www.ine.es
Ministry of Industry, Tourism and Trade	Investment Register	Gross and net foreign investment flows	
Organization for Economic Cooperation and Development (OECD)	<ul style="list-style-type: none"> • Benchmark definition of foreign Direct Investment, 4th edition • Checklist for foreign Direct Investment incentive policies 		www.oecd.org
Industrial Economy Papers	<ul style="list-style-type: none"> • "Map of local industrial production systems in Catalonia", Economy papers no. 21 • "The new industry: the core sector of the catalan economy" Industrial economy papers no. 26 		www.gencat.cat/diue
UNCTAD	World Investment Report 2008	World foreign investment flows	www.unctad.org

7.4 Glossary of Terms

Barcelona area	The geographic area made up of the city of Barcelona and the adjacent counties: Barcelonès, Maresme, Garraf, Baix Llobregat, Vallès Oriental, Vallès Occidental and Alt Penedès.
Cluster	The concentration of similar, related or complementary companies in a single geographic area that have active channels designed for carrying out commercial transactions, communication and dialogue between them. Within the same cluster, these companies also share specialized infrastructure and the same labour and services market, and also face similar opportunities and threats.
Holding companies	Holdings are companies set up in Catalonia with the main aim of holding the shares of companies operating abroad. Holding companies are instrumental in that they are set up based on strategies to optimize the tax situation within a business group. In many cases, their investments do not have direct economic effects because they merely involve the transfer of financial assets.
FDI	Foreign direct investment, also known as gross foreign investment. It can be divided into two groups: <ul style="list-style-type: none"> • Effective FDI. Investment that leads to an increase in a country's production capacity, including establishing and expanding installed capacity. • Mergers and acquisitions. Investment in mergers and acquisitions that involve capital flows, but that do not change the country's production capacity.
New economy	Also known as the knowledge economy or the digital economy, it is dominated by information. In this new context, companies are valued more highly for their ideas, information and know-how than for their tangible assets.
GDP: Gross domestic product.	Market value of the final goods and services produced by an economy in a specific period of time.
R&D&i:	Research, development and technological innovation. Spending on research, development and technological innovation activities.